

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

DOUGLAS DYNAMICS, LLC,

Plaintiff,

v.

OPINION AND ORDER
ON INFRINGEMENT

BUYERS PRODUCTS COMPANY,

09-cv-261-wmc

Defendant.

In this patent infringement case, plaintiff Douglas Dynamics, LLC alleges that defendant Buyers Products Company's snowplow assemblies infringe five of Douglas's patents covering certain snowplow features. Specifically, Douglas contends that Buyers' snowplow assemblies infringe (1) Douglas's three patents covering the mounting of snowplows, United States patents nos. 5,353,530 (the '530 patent), Re. 35,700 (the '700 patent) and 6,944,978 (the '978 patent); (2) its patent covering the hydraulic system used by a snowplow, no. 4,999,935 (the '935 patent), and (3) its patent covering the headlight system used by a snowplow, no. 5,420,480 (the '480 patent). Buyers denies its snowplow assemblies infringe any of Douglas's patents and counterclaims that even if there is infringement, Douglas's patents are invalid.

The court has already issued its opinion and order on claims construction. (*See* dkt. #91.) As is typical in patent lawsuits, the parties subsequently cross-moved for summary judgment on infringement and invalidity. (*See* dkts. ##120, 158, 166 & 170.) For the reasons discussed below, Douglas's motion will be granted with respect to infringement of the '530 and '978 patents and denied regarding the other patents;

Buyers' motion will be granted with respect to noninfringement of the '480 and '700 patents and denied regarding the other patents. Thus, what remains for trial with respect to infringement is whether Buyers' snowplow assemblies infringe the '935 patent.¹

BACKGROUND FACTS²

Defendant Buyers Products Company manufactures and sells SnowDogg snowplow assemblies. Buyers sells six different series of snowplow assemblies: MD series; HD/EX series; VX series; CM series; XP series; and TE series. All six series use the same mounting mechanism and lighting harness. The mounting mechanism used in the different series of snowplow assemblies is accurately described in United States Patent No. 7,562,718 (the '718 patent) entitled "Locking Mechanism for Mounting a Plow to a Vehicle," which is assigned to Buyers.

Plaintiff Douglas Dynamics is also in the business of producing and selling snowplows. Douglas is the assignee of all five patents-in-suit, each of which relate to snow plow attachments for vehicles. The '935 patent covers a "Hydraulic System and Apparatus for use with Vehicle Accessory Units." More specifically, the patent "relates to a hydraulic system for a vehicle mounted, power operated plow blade." '935 pat.,

¹ This opinion and order addresses only the parties' motions regarding infringement. The parties' cross-motions regarding invalidity of the '530, '700, '978 and '480 patents will be addressed in a subsequent opinion and order.

² For the most part, the parties agree on the material facts as to how Buyers' snowplows work or the structures found in the plows. The disputes are really about whether the snowplows' structures and functions read onto the patents. Broad background is provided here to help frame the dispute, but the most pertinent facts are set forth in context when analyzing whether Buyers' products infringe specific, asserted claims in each of the five patents at issue.

Abstract. The ‘480 patent covers an “Automatic Headlamp Switching System.” The ‘700 patent covers a “Removable Snowplow Assembly with Pivotal Lift Stand.” The ‘530 patent covers a “Quick Mounting Snow Plow Assembly” and the ‘978 patent covers simply a “Snowplow and Mount Assembly.”

OPINION

I. Relevant Law

A. Direct infringement and infringement under the doctrine of equivalents

“Summary judgment on the issue of infringement is proper when no reasonable jury could find that every limitation recited in a properly construed claim either is or is not found in the accused device either literally or under the doctrine of equivalents.” *U.S. Philips Corp. v. Iwasaki Elec. Co.*, 505 F.3d 1371, 1374-1375 (Fed. Cir. 2007) (quoting *PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1364 (Fed. Cir. 2005)). Patent infringement analysis involves two steps. First, the patent claims must be interpreted or construed to determine their meaning and scope. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). Second, the properly construed claims are compared to the process or device accused of infringing. *Id.* The former step was accomplished, for the most part, in the court’s claims construction order (*see* dkt. #91), the latter will be in this opinion and order.

To establish infringement, plaintiff Douglas must prove that each claim element is present in the accused products, either literally or by equivalence. *Dawn Equipment Co. v. Kentucky Farms Inc.*, 140 F.3d 1009, 1015 (Fed. Cir. 1998). Conversely, defendant

Buyers may prevail by demonstrating that at least one element from the asserted claim is absent from its products.

Under the doctrine of equivalents, “a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.” *Warner-Jenkinson Co. v. Hilton Davis Chemicals Co.*, 520 U.S. 17, 21 (1997). A broad, overall equivalence between an accused product and a patented invention is not enough; rather, “[e]ach element contained in a patent claim is deemed material to defining the scope of a patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole.” *Id.* at 29; *Freedman Seating Co. v. American Seating Co.*, 420 F.3d 1350, 1358 (Fed. Cir. 2005).

At times, the doctrine of equivalents is framed in terms of the substantiality of the differences between the elements of the invention and the product, *Freedman Seating Co.*, 420 F.3d at 1358, and at times in terms of the “triple identity test”: *Catalina Marketing Int’l v. Coolsavings.com, Inc.*, 289 F.3d 801, 813 (Fed. Cir. 2002)(“whether the accused device performs substantially the same function in substantially the same way to obtain the same result as the claim limitation”)(citations omitted). Both tests require “[a]n analysis of the role played by each element in the context of the specific patent claim.” *Warner-Jenkinson Co.*, 520 U.S. at 40.

B. Infringement of means-plus-function limitations

Several of the patents-in-suit contain what is commonly referred to as “means-plus-function limitations.” Such limitations fall under paragraph 6 of 35 U.S.C. § 112 which states:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Under the statute, if a claim includes a function but fails to identify the structure that performs the function, the structure is limited to the examples provided in the specification. Thus, construction of means-plus-function limitations requires first, identification of the claimed function and second, identification of the corresponding structures that perform those functions. *Omega Engineering, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1321 (Fed. Cir. 2003).

Because means-plus-function limitations are construed differently than other claim limitations, proving a product infringes such a limitation is slightly different. “Literal infringement of a claim limitation in means-plus-function format ‘requires that the relevant structure in the accused device perform the identical function recited in the claim and be identical or equivalent to the corresponding structure in the specification.’” *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1099 (Fed. Cir. 2008) (quoting *Applied Med. Resources Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 (Fed. Cir. 2006)).

Determining whether the accused device’s relevant structure is equivalent to the one set forth in the patent’s specification is a question of fact. *Hearing Components, Inc. v. Shure Inc.*, 600 F.3d 1357, 1370 (Fed. Cir. 2010). The analysis of structural equivalents

is similar to the analysis applied under the doctrine of equivalents; both require an inquiry into the insubstantiality of the differences between the disclosed structure and the allegedly infringing one. *Welker Bearing Co.*, 550 F.3d at 1199 (internal quotation omitted); *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indust., Inc.*, 145 F.3d 1303, 1310 (Fed. Cir. 1998). “Both § 112, ¶6, and the doctrine of equivalents protect the substance of the patentee’s right to exclude by preventing mere colorable differences or slight improvements from escaping infringement, the former, by incorporating equivalents of disclosed structures into the literal scope of a functional claim limitation, and the latter, by holding as infringements equivalents that are beyond the literal scope of the claim.” *Chiuminatta Concrete*, 145 F.3d at 1310. Accordingly, to be considered a structural equivalent under § 112, ¶6, the accused device’s relevant structure “must perform the claimed function in substantially the same way to achieve substantially the same result as the corresponding structure described in the specification.” *Hearing Components, Inc.*, 600 F.3d at 1370 (internal quotation omitted).

C. Indirect infringement

I. Active inducement

Active inducement of infringement is covered in 35 U.S.C. § 271(b), which provides that “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” “In order to prevail on an inducement claim, the patentee must establish ‘first that there has been direct infringement, and second that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another’s

infringement.” *ACCO Brands, Inc. v. ABA Locks Manufacturer Co.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007) (quoting *Minnesota Mining & Manufacturing Co. v. Chemque, Inc.*, 303 F.3d 1294, 1304-05 (Fed. Cir. 2002)).

“There can be no inducement or contributory infringement without an underlying act of direct infringement.” *Linear Technology Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1326 (Fed. Cir. 2004). Plaintiff Douglas must prove the underlying, direct infringement by “point[ing] to specific instances of direct infringement or show[ing] that the accused device necessarily infringes the patent in suit.” *Id.* If an accused device can be used at any given time in a non-infringing manner, the device does not necessarily infringe the patent. *Id.*

Plaintiff Douglas also has “the burden of showing that [defendant’s] actions induced infringement acts and that [it] knew or should have known [its] actions would induce actual infringement.” *DSU Medical Corp. v. JMS Company*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (internal quotation omitted). The requisite “specific intent” may be shown by circumstantial evidence. *Ricoh Co. v. Quanta Computer Inc.*, 550 F.3d 1325, 1342 (Fed. Cir. 2008) (citation omitted). In other words, “liability for active inducement may be found ‘where evidence goes beyond a product’s characteristics or the knowledge that it may be put to infringing uses, and shows statements or actions directed to promoting infringement.’” *Ricoh Co.*, 550 F.3d at 1341 (quoting *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 935 n.10 (2005)).

2. Contributory infringement

Contributory infringement is covered in 35 U.S.C. § 271(c), which provides that

Whoever offers to sell or sells within the United States . . . a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

Contributory infringement applies to “cases in which a party sells a particular component that is known to be intended for an infringing use and is useful only for infringement.”

PharmaStem Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1358 (Fed. Cir. 2007).

Unlike active inducement, contributory infringement requires “only proof of defendant’s knowledge, not intent, that his activity causes infringement” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990) (emphasis in original). The alleged contributory infringer, however, must be shown to not only have “knowledge that the component was especially made or adapted for a particular use, but also knowledge of the patent which proscribed that use.” *Id.* at 1469 n.4 (citation omitted); *see also Preemption Devices, Inc. v. Minnesota Mining & Manufacturing Co.*, 803 F.2d 1170, 1174 (Fed. Cir. 1986) (“[O]ne must show that an alleged contributory infringer knew that the combination for which his components were especially made was both patented and infringing.”) (Emphasis added.)).

To establish contributory infringement, plaintiff must also prove that defendant’s components have no substantial noninfringing uses. *Golden Blount, Inc. v. Robert H. Peterson Co.*, 365 F.3d 1054, 1061 (Fed. Cir. 2004) (Golden Blount I). Liability is established when a bare component, sold or offered for sale within the United States, has no use other than practicing the methods in an allegedly infringed patent. An alleged

infringer does not fall under the no substantial noninfringing use exception by merely embedding the component “in a larger product with some additional, separable feature before importing and selling it.” *Ricoh Co.*, 550 F.3d at 1337 (declining to find no contributory infringement even though hard drives were capable of substantial noninfringing use, because of factual dispute over whether those drives “use[d] separate hardware and embedded software modules to perform the patented processes and [whether] those components had no noninfringing use”).

II. The ‘935 Patent

Douglas alleges that Buyers’ snowplow assemblies infringe claim 1³ of the ‘935 patent, which states:

A hydraulic system comprising, in combination, a plow blade,

means for mounting said plow blade for vertical movement and horizontal movement,

a hydraulic power unit including a hydraulic fluid reservoir, a pump communicating with said hydraulic fluid reservoir and lift hydraulic cylinder means,

means connecting said lift hydraulic cylinder to said plow blade for moving said plow blade vertically,

angling hydraulic cylinder means for selectively moving said blade horizontally in opposite directions,

a manifold including means defining fluid flow passages in said manifold communicating with said hydraulic cylinder means and solenoid valve means in said fluid flow passages and operative to

³ Of the five patents-in-suit, the only one Douglas does not seek summary judgment on is its claim that Buyers’ snowplows infringe the ‘935 patent, although Douglas does dispute Buyers’ entitlement to summary judgment on that patent.

selectively direct fluid to said lift hydraulic cylinder means and angle hydraulic cylinder means, and

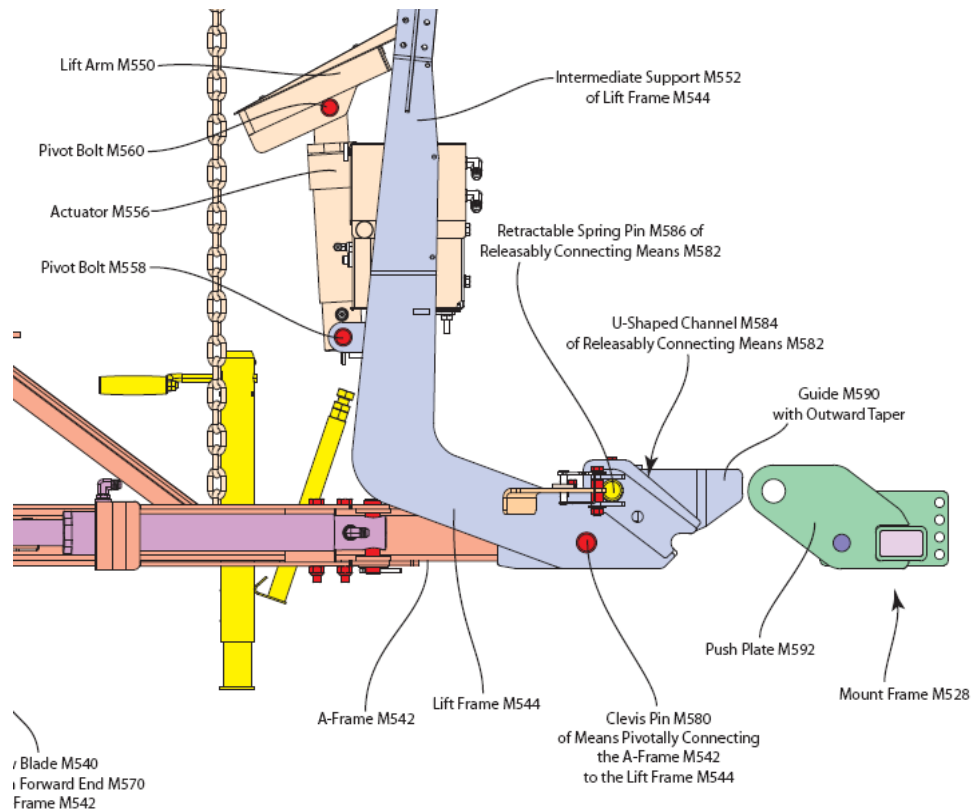
said manifold connected to and mounted on said hydraulic power unit.

'935 pat., col. 6, lns. 43-63.

A. Means for mounting

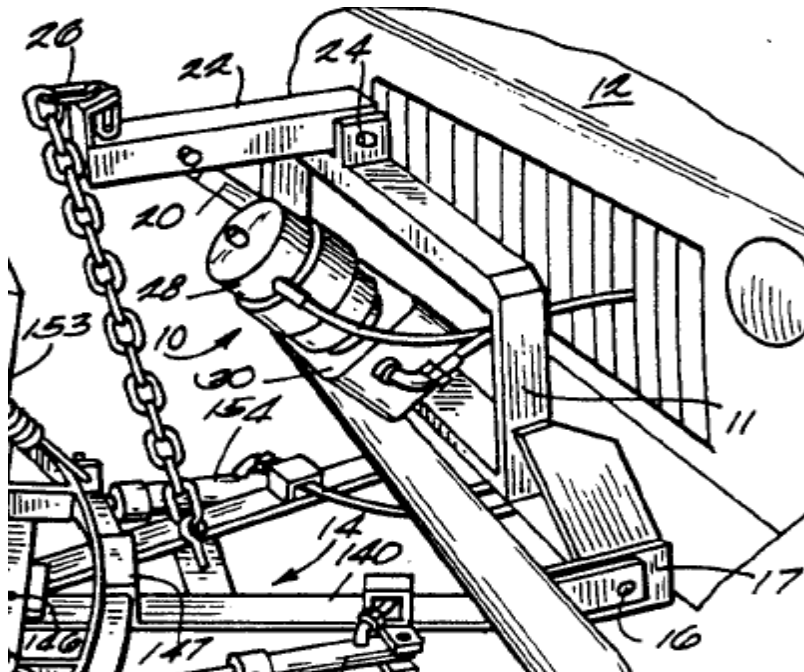
Buyers contends that its snowplow assemblies do not have the identical or equivalent structures associated with claim 1's "means for mounting." Neither party disagrees that the claimed limitation is of the means-plus-function type. The court has already determined that the claimed function is "attaching the plow blade to the vehicle in a manner that permits vertical and horizontal movement" and that the corresponding structures are "a frame that includes an A-frame and an additional frame portion attached to the plow blade using a pin and attached to the vehicle using pins, an extension, a chain and a lever arm." (Claims Construction Order, dkt. #91, at 7 & 9.)

Buyers contends that because the A-frame in its snowplow assemblies is attached directly to the lift frame and not to the vehicle, its assemblies do not infringe claim 1. Buyers points to the diagram below as evidencing the manner in which its snowplow assemblies attach to the mounting frame, which is then attached to the vehicle.



(Garris Expert Report⁴, Volume 1, dkt. #126, app. B, ex. 4b.) Buyers argues that this manner of attachment between to the A-frame, lift frame, mounting frame and vehicle provides a mounting concept that is “wholly distinct” from that claimed in the ‘935 patent, an embodiment of which is pictured below. (Def.’s Reply Br., dkt. #207, at 4.)

⁴ Douglas’s motion to strike Buyers’ expert report, (dkt. #36), was submitted three days after the May 17, 2010 deadline. The court does not condone Buyers’ decision to unilaterally extend the deadline by three days -- especially since Buyers provides no good justification for the delay -- but the three day delay was harmless. See *David v. Caterpillar, Inc.*, 324 F.3d 851, 857 (7th Cir. 2003) (failure to comply with Fed. R. Civ. P. 26(a)’s discovery requirements should result in an automatic and mandatory exclusion of the later offered evidence “unless the sanctioned party can show that its violation of Rule 26(a) was either justified or harmless.” (Internal quotation omitted)). Buyers’ three day delay did not prejudice Douglas, nor did it create any disruption in the case’s schedule.



Buyers, however, fails to elaborate on what makes its mounting concept so distinct from that found in the '935 patent.

An initial problem with Buyers' argument is that the '530, '700 and '978 patents are Douglas's mounting patents, while the invention claimed in the '935 patent is the hydraulic power system. *See* '935 pat., col. 1, lns. 46-56. In the '935 patent, the manner in which the plow blade is mounted to the vehicle is, at most, of secondary importance. In fact, the specification merely teaches that the additional frame, or, in terms of Buyers' snowplow assemblies, the lift frame, is connected to the front of vehicle, without explaining how that connection is made. *See id.*, col. 2, lns. 52-53 ("a frame 11 suitably connected to the front of the vehicle 12 in the area of the front bumper"). Thus, in the '935 patent the scope of the "means for mounting" is broad and Buyers' proposed construction would limit that scope.

A related and more fundamental problem with Buyers' position is its apparent concession that its snowplow assemblies may permit attachment of the plow blade to the vehicle in a manner permitting vertical and horizontal movement. In other words, Buyers' does not challenge whether its snowplow assemblies perform the identical function as the "mounting means" in claim 1. Instead, Buyers sets out to prove that no reasonable jury could find that the structures its assemblies use to perform the claimed function are identical or equivalent to those in the patent. Buyers fails, however, to explain why the manner in which its A-frame and lift frame attach the plow blade to the vehicle does not produce substantially the same result in substantially the same way as the claimed A-frame and additional frame do with both attached directly to the vehicle.

Looking at the language in the patent, nowhere is there a requirement that the structures corresponding to the "mounting means" be connected to the vehicle in any specific order to achieve vertical and horizontal movement. Even assuming that such an order is claimed, Buyers' snowplow assemblies could infringe so long as its structures are placed in an order equivalent to that claimed in the patent.

Buyers may be correct in noting that at some point having multiple or large intervening structures between the plow blade and the vehicle would place a product outside the scope of claim 1. That point would be reached when the intervening structure or structures prevent the relevant structures from performing the claimed function in substantially the same way to reach substantially the same result as the claimed structure. Though Buyers may be able to do so at trial, it has to date failed to prove that connecting the A-frame to the vehicle through the lift frame, as opposed to

using a direct connection between the A-frame and the vehicle, reached that point. Indeed, Buyers simply fails to offer persuasive reasons precluding a reasonable jury from finding that attaching the A-frame to the lift frame and the lift frame to the vehicle, as opposed to attaching both the A-frame and the lift frame directly to the vehicle, does not produce an equivalent structure.⁵

B. Means defining fluid flow passage

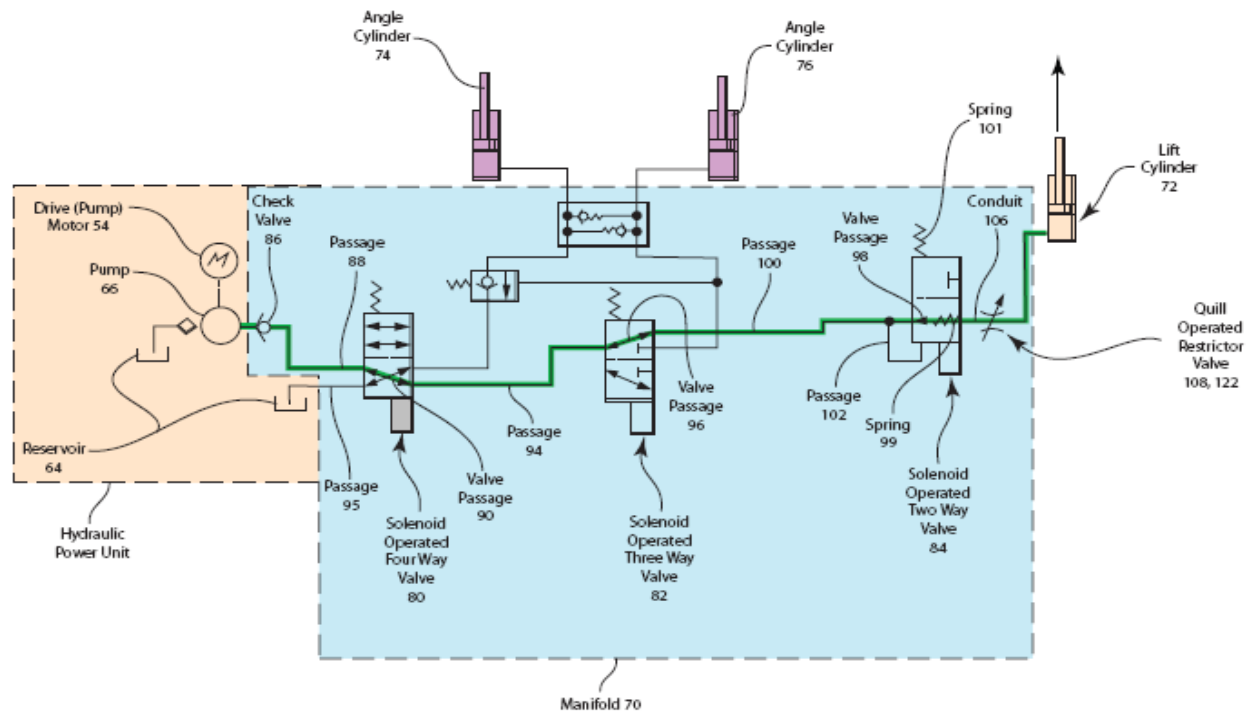
Buyers' erroneously argues that its snowplow assemblies' manifold does not infringe the "means defining fluid flow passage" limitation because the structures in its manifold defining fluid flow passages differ or, more specifically, are arranged differently than those described in the '935 patent. Buyers' explains that "because Douglas used means -- plus-function claim language, it is limited to *exactly* the structure in the '935 Patent -- which is nowhere to be found in Buyers' snowplow mounting system." (Def.'s Reply Br., dkt. #207, at 4-5. (Emphasis added).) This argument is a non-starter because

⁵ Buyers also contends that using a chain and pin to attach the A-frame in its assembly to the lift frame, and not to the vehicle, is wholly different than the claimed structure. (Def.'s Reply Br., dkt. #207, at 3.) Buyers is mistaken about what the '935 patent's specification teaches about how the chain and pin are used. In the specification, the lever arm is connected to the additional or lift frame using a pivot pin and to the A-frame using a chain. '935 pat., col. 2, lns. 62-65 ("Ram **20** is connected to frame **14** through a lever arm **22** which is in turn pivotally connected to frame **11** by pivot pin **24**. Lever arm **22** is connected to frame **14** by chain **26**."). Therefore, the specification teaches a connection between the A-frame and lift frame using a chain and pin identical to that used in Buyers' snowplow assembly. The only difference, as discussed above, between the claimed structures and Buyers' assembly is that the A-frame in Buyers' assembly is also attached to the lower portion of the lift frame using a pin as opposed to being attached to the vehicle using that pin. Whether this, too, is equivalent is for the jury to decide.

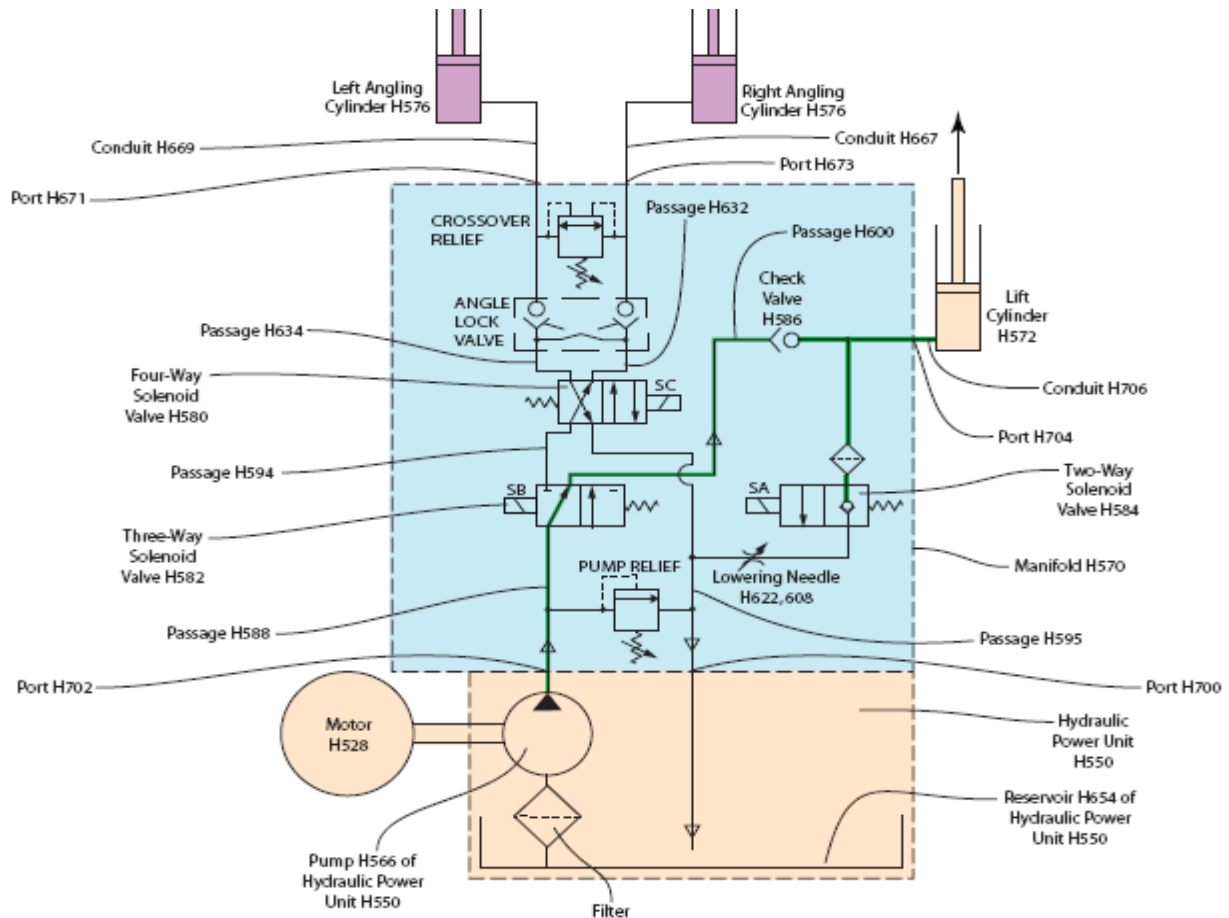
it fundamentally misunderstands how a product can infringe a means-plus-function limitation.

So long as a device engages in the identical function recited in the claim, means-plus-function limitation turns on whether any differences in structure between those found in the specification and those found in the accused device are “substantial.” *Hearing Components, Inc.* 600 F.3d at 1370. In other words, using a means-plus-function limitation does not limit infringement to only those devices using the *exact* structures found in the patent at issue. *Id.* Differences in structure can still result in infringement if those differences are insubstantial. *Id.*

A look at Buyers’ structures for defining fluid flow passages that communicate with the assemblies’ hydraulic cylinders and those structures in the patent show the rearrangement of structures. For example, in the ‘935 patent the following diagram, taken from Figure 4 in the patent and that labeled by Douglas’s expert Dr. Garris, demonstrates the structures used to create the fluid flow path that lifts the plow blade:



(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 30.) The next diagram represents the structures and path used in Buyers' manifold to lift the plow blade.



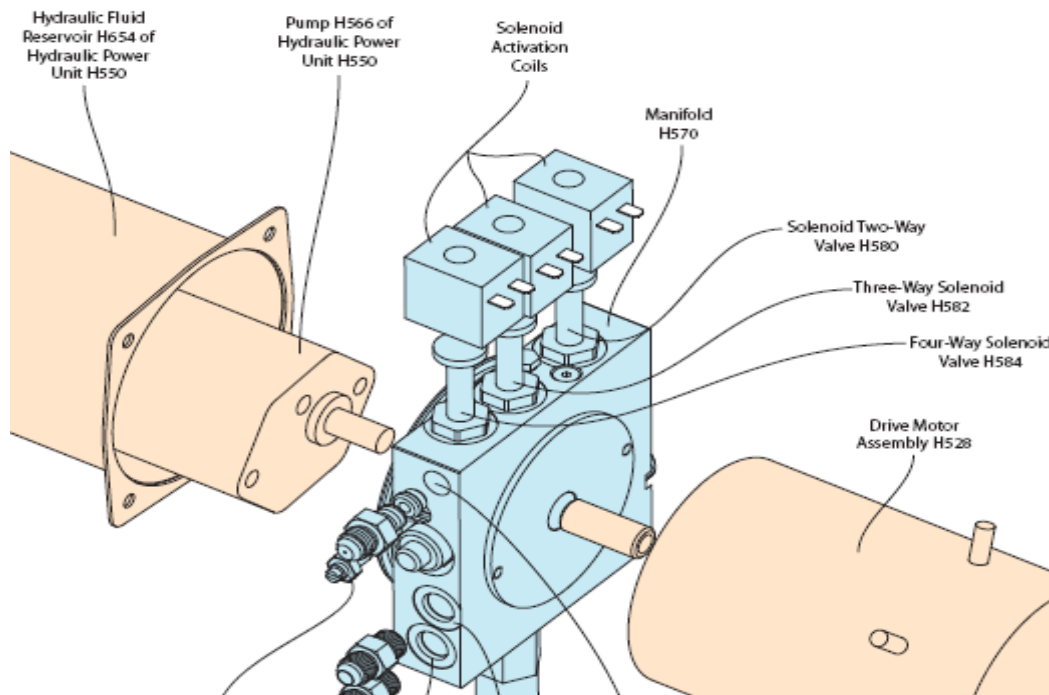
(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 21.) Comparing the two diagrams shows that although the actual path of fluid flow is different, both use similar, if not identical, structures.

Buyers has failed to explain why rearrangement of the valves is anything but an insubstantial difference between its structure defining fluid flow passages that communicate with the hydraulic cylinders and the structure in the specification of the '935 patent. Buyers' statement, with no explanation or additional support, that "the magnitude of these differences precludes a finding of infringement" is not sufficient

evidence from which a reasonable jury could find only in its favor. (Def.'s Reply Br., dkt. #207, at 5.)⁶

C. Manifold connected to and mounted on said hydraulic power unit

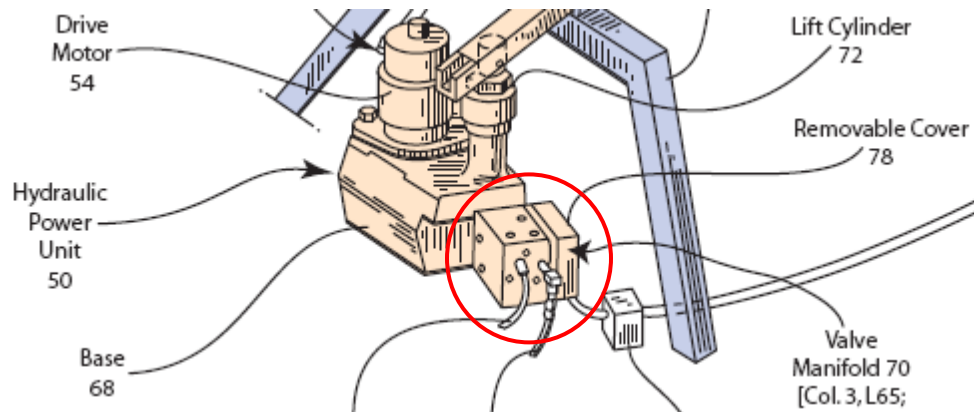
Buyers contends that its snow plow assemblies do not infringe claim 1 because the manifold in its assemblies is a part of the hydraulic power unit, located between the drive motor and the pump/reservoir, and is not a separate component connected to and mounted on the unit as required by claim 1. The following image depicts where Buyers' manifold is located:



⁶ Expert statements that a product infringes or a patent is invalid provide little if any help in the court's effort to decide those issues. *See Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1277-78 (Fed. Cir. 2004) (expert's unsupported conclusion on ultimate issue of infringement insufficient to raise genuine issue of material fact). What matters is the expert's testimony about how the device works or what makes the patented invention obvious. For these purposes, the parties' experts' testimony are admissible and helpful.

(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 18.) Douglas disagrees with Buyers' characterization of the manifold in the SnowDogg snowplow assemblies. Douglas contends that Buyers' manifold is a separate physical structure at least connected on the pump and reservoir to the hydraulic power unit by being mounted.

Viewing the figure from the '935 patent showing a preferred embodiment for the location of the manifold, as described in the specification, in light of the construction of "hydraulic power unit" shows that Buyers' manifold is no more an integral part of the hydraulic power unit than the manifold pictured in the patent:



(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 27.)

As explained in the court's claim construction order, the hydraulic power unit is a group of hydraulic components and those components may or may not all be located on the same base. (Court Claims Constr. Order, dkt. #91, at 11-12.) If some of the components, though connected, are spread apart in such a manner to permit placing the manifold between two components – for example, by mounting it on one of those components, such as the hydraulic fluid reservoir -- doing so does not make the manifold an integral part of the hydraulic power unit any more than mounting a manifold on the

side of one of the components that is additionally connected to the other components making up the entire unit does. At least, a jury acting reasonably could find as much, which again leaves a genuine issue for trial.

Even if Buyers' manifold cannot be considered literally "mounted on" the hydraulic power unit, a reasonable jury could find that its location is equivalent to being mounted on the unit. Mounting the manifold directly onto the hydraulic power unit serves two of the core purposes of the patent: (1) simplification of construction of an hydraulic power system and (2) simplification of the removal of the entire system. '935 pat., col. 1, lns. 46-53, 63-68. Buyers has failed to explain how placing the manifold between two components that make up the unit would do anything besides furthering those purposes by insuring that the manifold is constructed with the power unit and must be removed with the overall unit. Therefore, a genuine issue remains about whether the location of Buyers' manifold still "performs substantially the same function in substantially the same way to obtain the same result as the claim limitation." *Catalina Marketing Int'l*, 289 F.3d at 813 (citations omitted).

III. The '480 Patent

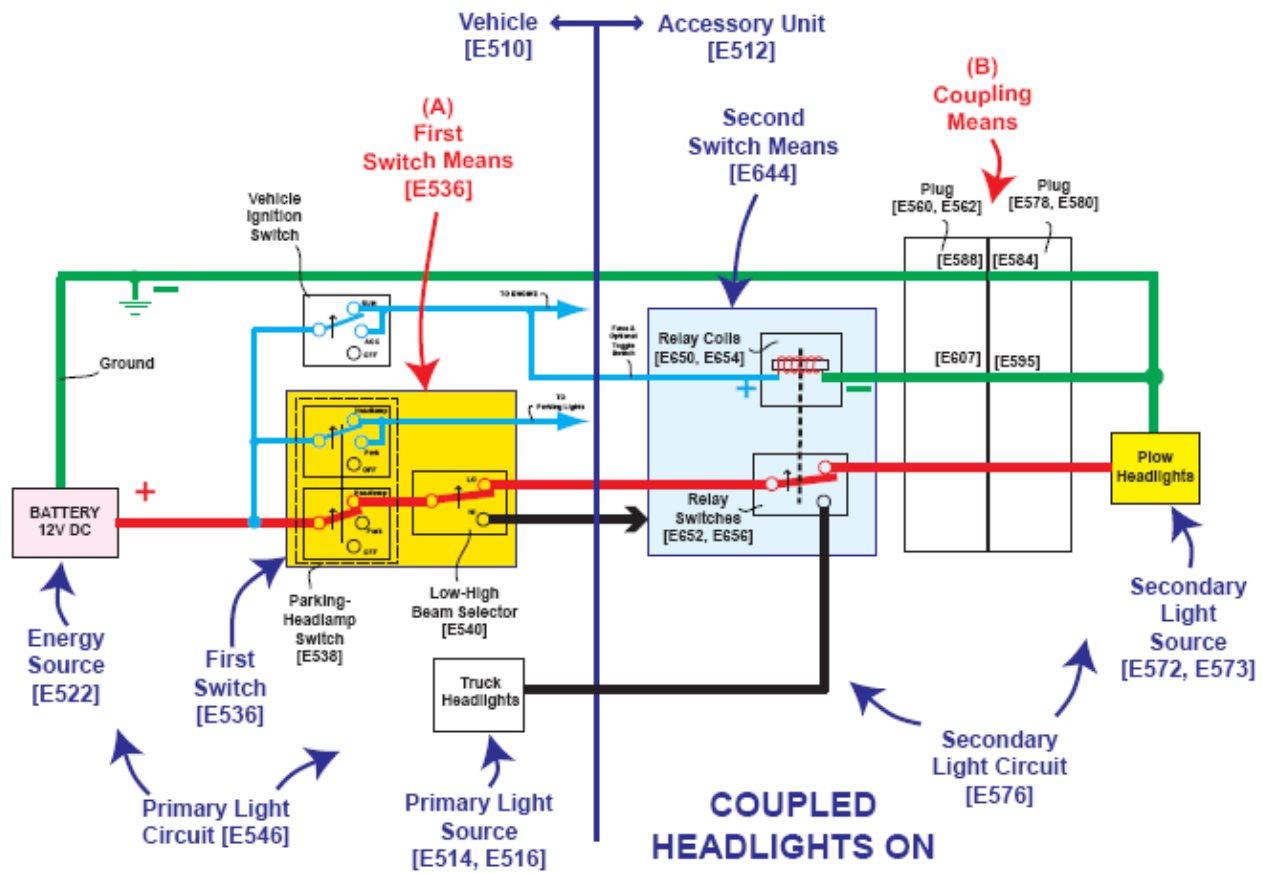
Douglas asserts that Buyers' snowplow assemblies infringe independent claims 1, 2, 7, 9, 16 and 18 of the '480 patent, regarding a headlight switching system used to operate snowplow headlights using the vehicle's headlight switch.⁷

⁷ Although Douglas asserts that Buyers' snowplow assemblies infringe claim 9, it did not move for summary judgment on infringement of that claim. Buyers, however, has moved for summary judgment on noninfringement of claim 9.

A. Buyers' snowplow lighting system and the patented system

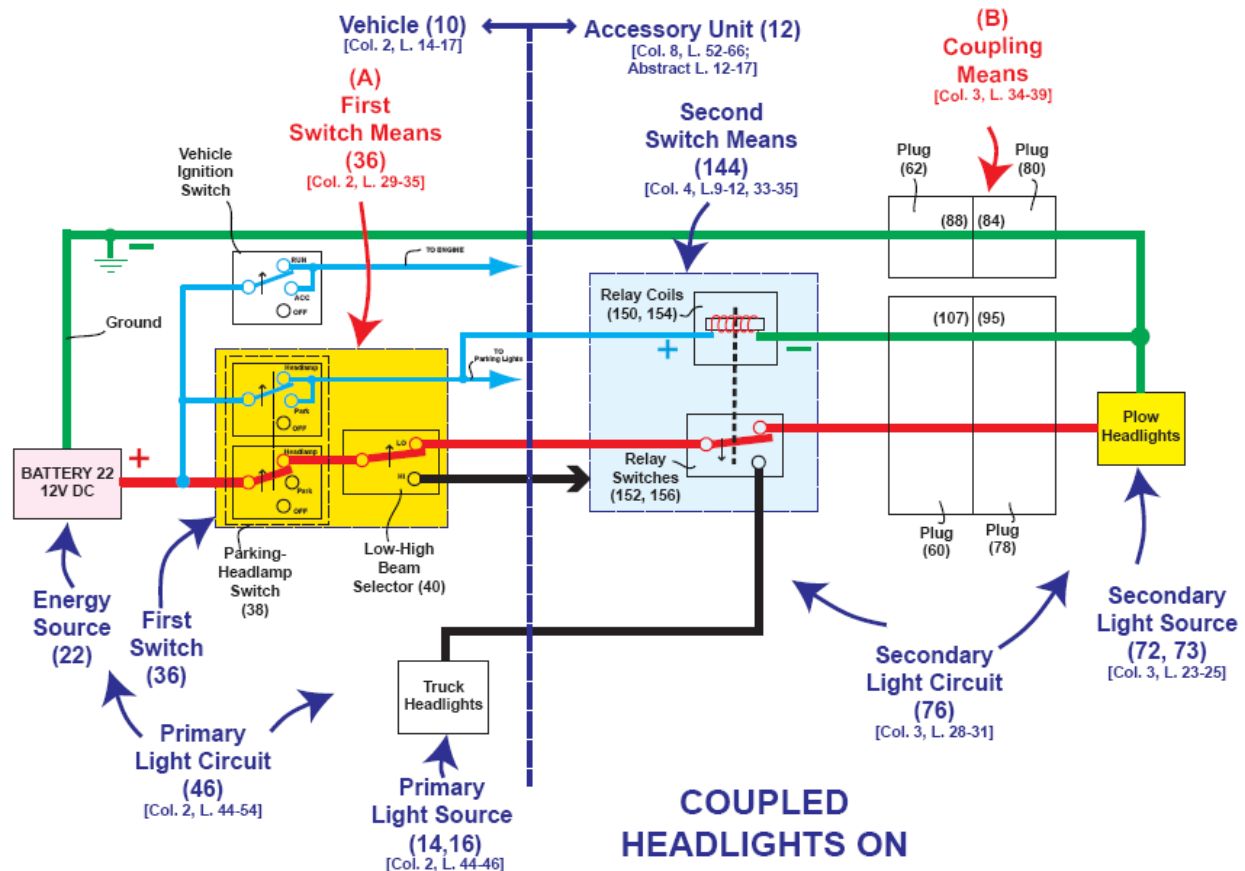
According to Buyers' light reference manual, once the headlight harness is installed "[t]he SnowDogg relay isolation module diverts power for the plow high and low beams from the truck harness to the snowplow lights when the plow is connected, and the Orange wire is energized (+12V), typically from an ACC source (only on when the ignition is on.) As the power is diverted, there is no additional draw from the plow lights." (Garris Expert Report, Volume 1, dkt. #126, app. C, ex. 5 at BPC0003964.) The manual further explains in the troubleshooting section, that if the "plow lights remain on when the truck is off" that is a problem and that "installation is incorrect for the vehicle application." (*Id.* at BPC0003967.) Therefore, the plow headlights will not turn on unless three things happen: (1) the truck ignition is on; (2) the headlight harness is connected to the relay harness, which is attached to the vehicle; and (3) the vehicle's headlight switch is turned on.

The following diagram was created by Douglas's expert, Dr. Garris, in an effort to simplify the manner in which Buyers' headlight harness works:



(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 46.) This simplified version makes clear that the relay coils in the second switch would not be energized or activated, and the plow headlights not illuminated, unless (1) the vehicle ignition was on, (2) the vehicle's headlamp switch was turned on and (3) the plugs, or coupling means as they are labeled, were connected.

According to the '480 patent, all necessary electricity to illuminate the plow headlights is run to the second switch means by activation of the first switch means in the primary light circuit and attaching of the coupling means, as evidenced in Dr. Garris's simplified diagram of the patented system:



(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 61.) The ignition switch plays no part in providing electricity to the second switch means in the patented invention.

B. Claims 1, 2, 9 and 16

Claims 1, 2, 9 and 16 are similar, independent claims of the '480 patent. All four claims require a "second switch means" that is activated when both the coupling means connects the vehicle and the accessory unit and the first switch means is activated. '480 pat., col. 8, lns. 58-61; col. 9, lns. 11-14, 18-19; col. 10, lns. 29-34; col. 11, lns. 22-24. Buyers argues that because the second switch means in its snowplow assemblies are not

activated upon activation of the first switch means, but upon activation of the vehicle's ignition, its plow assemblies cannot infringe claims 1, 2, 9, and 16.⁸

Douglas does not dispute that when a vehicle is connected to Buyers' snowplow using Buyers' headlight harness and the vehicle's ignition is turned on, electricity is provided to the second switch means' relay coils regardless of the position of the vehicle's headlight switch. Equally, if the vehicle's ignition is turned off, the plow headlights will not illuminate even if the vehicle's headlight switch is turned to the on position. In other words, although it is necessary for the headlight switch to be turned on to illuminate the plow headlights, this alone is not sufficient to illuminate the plow lights.

Douglas, nonetheless, argues that Buyers' assemblies infringe claims 1, 2, 9 and 16, or at least a reasonable jury could so find, because those claims do not limit the manner in which electricity is provided to the second switch means. In other words, according to Douglas, regardless of whether electricity comes from the ignition being turned on or merely from the vehicle's headlight switch being turned into the on position, the claims are infringed.

Douglas contends that Buyers' argument misconstrues what the patent means when it claims a second switch means "activated" by a first switch means. Douglas reasons that the second switch means cannot be considered "activated" unless the plow headlights--referred to as the secondary light source or accessory unit headlamp means in the claims at issue--are illuminated. Thus, according to Douglas, the second switch

⁸ Buyers provides several additional arguments but because its argument regarding activation of the second switch means shows that the snowplow assemblies do not infringe every element of claims 1, 2, 9 and 16, there is no need to address those arguments.

means in Buyers' assemblies is only activated when the vehicle's headlight switch--referred to as the first switch means in the claims at issue--is turned to its "on" position, that is, activated.

Even accepting Douglas's construction of "activated" to mean "illumination of the plow headlights," no reasonable jury could find that Buyers' plow headlight system functions the same as the system in claims 1, 2, 9 and 16.⁹ As Douglas points out, in construing the "second switch means," the court noted that activation of that means was a separately claimed element. (Pl.'s Supp. Br., dkt. #159, at 42.) According to the language in the claims, the "second switch means" functions to interrupt the primary light circuit, which connects the vehicle battery to the vehicle's headlights, and to complete the secondary light circuit, which connects the vehicle's battery to the plow headlights. *See, e.g.*, '480 pat., col. 8, lns. 58-64 ("said second switch means . . . for interrupting said primary light circuit and for simultaneously completing said secondary light circuit by connecting said energy source to said secondary light source"). When the second switch means performs its function, i.e., is activated, the end result is illumination of plow headlights. *See, e.g., id.*, col. 8, lns. 65 ("so that said secondary light source is illuminated").

⁹ Douglas does not make a doctrine of equivalents argument regarding the activation of the second switch means and the court will not make an argument for it. Regardless of this failure, the manner in which Buyers' second switch means is activated which requires the vehicle ignition to be turned to the on position does not produce the same result in substantially the same way as that provided in the claims at issue. In claims 1, 2, 9 and 16, the first switch means alone controls completion of the secondary light circuit resulting in illumination of the plow headlights.

Buyers contends that turning the vehicle's ignition on "activates" its snowplow assemblies' second switch means. This contention cannot be correct because there is no completion of the secondary light circuit resulting in illumination of the plow headlights by merely turning the vehicle's ignition on. But neither is Douglas correct in contending that the vehicle's headlight switch "activates" Buyers' assemblies' second switch means and for the same reason: there is not a completion of the secondary light circuit resulting in illumination of the plow headlight upon mere activation or turning on of the vehicle's headlight switch. In Buyers' assemblies, both the vehicle headlight switch *and* the ignition must be turned to their respective "on" positions for the secondary light circuit to be complete, causing the plow headlights to illuminate.

The manner in which electricity is delivered to the relay coils in the second switch means matters. If illumination is the direct result of an activated second switch means, then how electricity, which is obviously necessary for illumination, is provided is also central to the invention: the second switch means cannot be considered activated by the first switch means if an additional switch (the ignition) must also be activated. The specification even discusses the need for electricity to energize the second switch means' relay coils so that the second switch means' relay switch can be changed to interrupt the primary light circuit and complete the secondary light circuit to cause illumination of the plow headlights. *See, e.g.,* '480 pat., col. 6, lns. 32-56. Further, the relevant claim language requires completion of the secondary circuit, connecting the energy source to the plow headlights, resulting in illumination of the plow headlights. In Buyers' plow

headlight system, there is no such connection until electricity is provided to the relay coils through the vehicle's ignition being switched to its "on" position.

Douglas also argues that the doctrine of claim differentiation -- which states that different claims should be presumed to cover different inventions -- prevents the application of such a limitation, at least for claim 2, because claim 8, which is dependent on claim 2, requires that the primary light circuit include a parking lamp circuit and the second switch means be connected to the vehicle battery through the parking lamp circuit. But requiring electricity to flow to the relay coils through only the primary light circuit does not make claim 8 superfluous. Claim 8 covers a narrower invention using a primary light circuit that includes a parking lamp circuit, while claim 2 covers a broader invention that does not require the vehicle to include a parking lamp circuit but still requires running all electricity necessary to activate the second switch means through the primary light circuit. Therefore, limiting the manner in which electricity flows to the second switch means in claim 2 does not violate the doctrine of claim differentiation.

Under claims 1, 2, 9 and 16, the vehicle operator can illuminate the plow lights even if he does not, or more importantly cannot, turn the vehicle ignition on; all that matters is that the coupling means has connected the vehicle to the snowplow unit and the first switch means (the vehicle's headlight switch) is activated. All necessary electricity is run through the primary light circuit by activating the first switch means and attaching the coupling means as demonstrated in Dr. Garris's simplified diagram of the patented system provided above. (*See* Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 61.)

The same cannot be said about Buyers' snowplow assemblies. By requiring the vehicle's ignition switch to be in the "on" position before the electricity necessary to illuminate the plow lights is provided, Buyers' plow headlight system does not use a second switch means that is activated by attaching a coupling means and activating a first switch means. Because of the absence of this element, Buyers' snowplow assemblies do not directly infringe independent claims 1, 2, 9 and 16 and no reasonable jury could find otherwise.

C. Claim 7

Independent claim 7 of the '480 patent is slightly different than independent claims 1, 2, 9 and 16. Instead of covering a "second switch means" activated in part by the first switch means, it covers a "switching means automatically activated when said accessory unit is coupled to said vehicle." '480 pat., col. 9, lns. 64-65. Although Douglas argues otherwise, no reasonable jury could find that Buyers' plow headlight system contains such an automatically activated switching means.

Claim 7's switching means serves the identical function as the "second switch means" in claims 1, 2, 9 and 16. (*See* Court's Claim Construction, dkt. #91, at 18 & 27-28.) In claim 7, however, activation of the switching means is "automatic" upon coupling the snowplow unit to the vehicle. As Douglas points out, activation of the switching means does not require activation of any vehicle switch, it occurs automatically when the structures making up the coupling means are plugged into each other. (Pl.'s Supp. Br., dkt. #159, at 46-47.)

As already discussed, Buyers' snowplow headlight system requires more than the coupling of the headlight harness to the relay harness for the switching means to be activated. Buyers' system also requires activation of the ignition switch and activation of the vehicle headlight switch. Because activation of the structures that make up Buyers' switching means -- first and second relays of the single pole double throw type -- does not occur automatically upon attaching of the coupling means--headlight and relay harnesses--Buyers' snowplow assemblies do not directly infringe claim 7 and no reasonable jury could find otherwise.

D. Claim 18

Claim 18 of the '480 patent is similar to claim 7 in that it requires a switching means. Claim 18, however, also requires illumination or energizing of the plow headlights "in response to said switch." '480 pat., col. 12, lns. 22-23. The "switch" refers to the vehicle's headlight switch mentioned earlier in the claim, which is identical to the first switch means in claims 1, 2, 9 and 16. *Compare id.*, col. 9, lns. 1-5 *with* col. 12, lns. 12-16. There is no requirement that the switching means be activated by anything. Instead, claim 18 requires a "switching means for interrupting the primary circuit and for connecting said energy source to said secondary light source so that said secondary light source is selectively energizable in response to the switch." *Id.*, col. 12., lns. 19-23.

Douglas contends that the requirement that Buyers' plow headlight system's ignition be turned on before the relays are activated to illuminate the plow lights provides

nothing more than an unclaimed prerequisite that does not bar infringement of the claim; all that matters in terms of infringement of claim 18 is whether the vehicle headlight switch controls the illumination of the snowplow headlights. Buyers argues that tying illumination of the plow headlights to the ignition is a crucial difference between its product and the invention in claim 18. Buyers again has the more persuasive argument, and for essentially the same reasons.

Claim 18 requires illumination of the plow headlights to occur in response to the vehicle headlight switch. In the portion of the '480 patent specification discussing the prior art, the inventors noted that the claimed invention was an improvement over a conventional snowplow unit's lighting systems that required "more than one means for controlling the illumination of the vehicle headlamps and the snowplow headlamps[.]" '480 pat., col. 1, lns. 28-30. In Buyers' snowplow headlight system, there is more than one means for controlling illumination: the ignition switch and the vehicle headlight switch. If the vehicle ignition is not turned to the "on" position, then the plow headlights cannot be illuminated in response to the vehicle headlight switch. No amount of moving the vehicle headlight switch can cause the plow headlights to energize or illuminate if the vehicle ignition is not turned on.

Further, this additional requirement is not merely some unclaimed prerequisite. Using Buyers' system, the plow headlights can never be selectively energizable in response to only the vehicle's headlight switch. They can only be selectively energizable in response to the vehicle's headlight switch *and* the ignition switch. Although the ignition switch may not be the type of separate switch means located on the plow itself or

on the dashboard, which was a problem with the prior art, *see* '480 pat., col. 1, lns. 31-36, it is no less a separate switch means controlling illumination. And all the independent claims of the '480 patent, including claim 18, were meant to avoid such separate switch means.

Although claim 18 is written in the broadest terms of all the independent claims -- because it does not require a specific coupling means or any specific method of activation for the switching means -- it still follows the core invention of the patent, which involves using only the vehicle's headlight switch for illuminating the snowplow headlights. For example, in its simplest terms, claim 18 requires that switch A, which normally turns on the vehicle's headlights using the primary light circuit, be used to turn on the snowplow's headlights by connecting the electrical current from the vehicle battery to the plow headlights. In other words, when the snowplow unit is attached to the vehicle creating a secondary light circuit, flipping switch A must result in the plow headlights being turned on. As stated in the prosecution history of the '480 patent, Claim 18 was allowed by the patent examiner because "[t]he prior art of record fails to disclose switching means that is such that it causes the secondary light source to be selectively energizable through the switch for the primary light source." (Prosecution History, dkt. #33, app. C, part 4, at DD000435.) The key is one switch to turn the plow lights on.

In the headlight system used in Buyers' snowplow assemblies, when the snowplow unit is attached to the vehicle merely flipping one switch will *not* turn the plow headlights on by connecting them to the battery. Both switch A, the vehicle headlight switch, and switch B, a second switch means that controls the vehicle's ignition, must be flipped at

the same time to turn on the plow's lights. Requiring the use of two switches to control illumination of the plow headlights is not the same or substantially the same as requiring the use of one. Therefore, Buyers' snowplow assemblies do not directly infringe claim 18 and no reasonable jury could find otherwise.¹⁰

E. Indirect infringement

Douglas's assertion that Buyers' snowplow assemblies indirectly infringe several of the claims of the '480 patent when the assemblies are combined with a vehicle fail because, as discussed above, there is no underlying direct infringement of any of the claims of the '480 patent. *Linear Technology Corp.*, 379 F.3d at 1326 ("There can be no inducement or contributory infringement without an underlying act of direct infringement.").

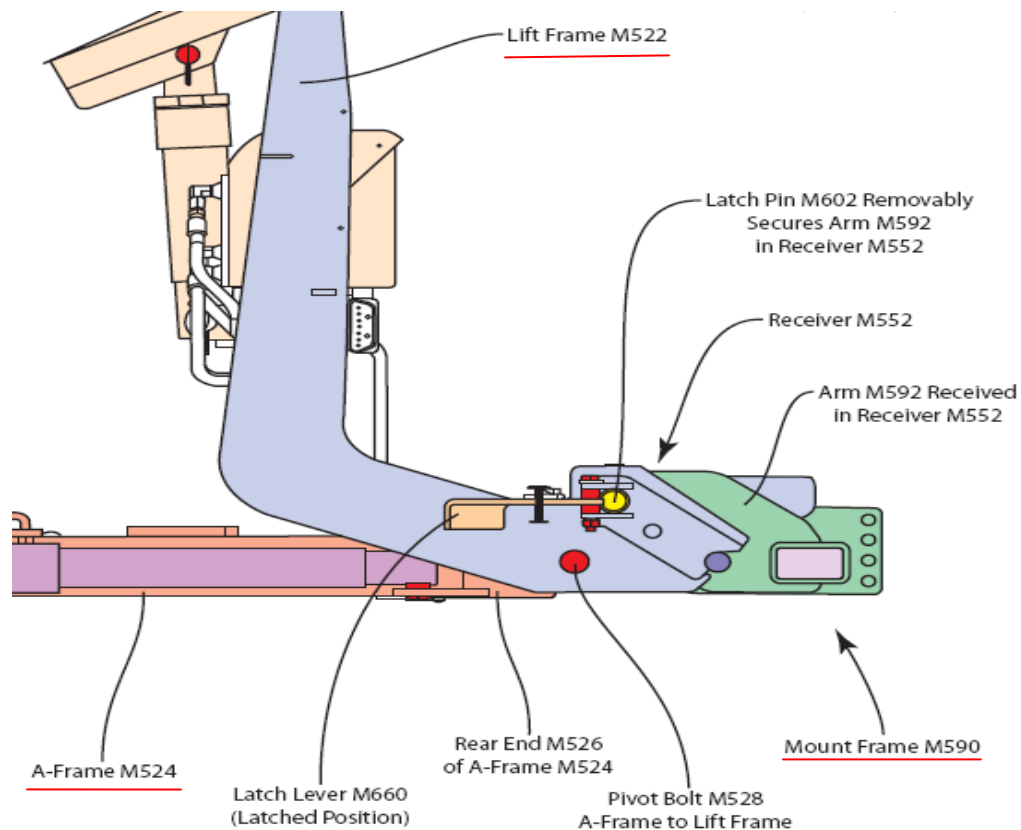
IV. The '700 Patent

The '700 patent is one of three of Douglas's patents directed to the mounting and removing of a snowplow assembly. It is a reissue of United States Patent No. 5,125,174 related to removing the majority of the snowplow assembly while leaving a minimal amount attached to the vehicle. Douglas asserts that Buyers' snowplow assemblies infringe independent claims 1, 38 and 45 and dependent claims 6, 8-9, 39, 43-44, 47-49 and 51.

¹⁰ Because Buyers' snowplow assembly does not infringe any of the independent claims in the '480 patent, neither can it infringe any of the dependent claims.

B. Independent Claim 1

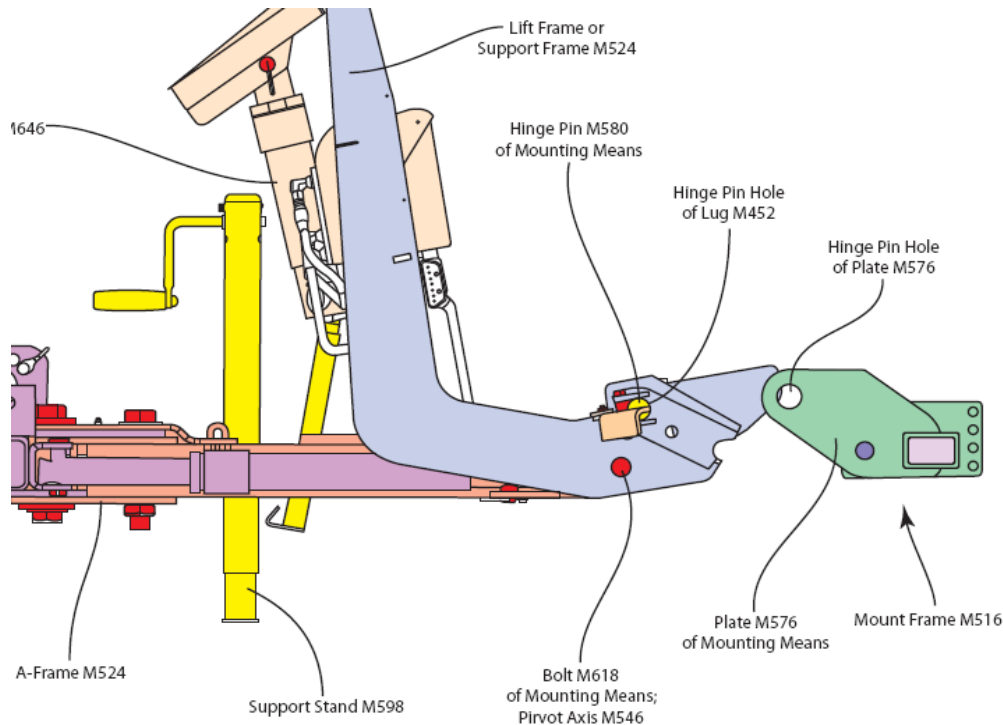
Buyers contends that its snowplow assemblies do not have “a lift frame supported by the A-frame” as required in claim 1 of the ‘700 patent. When Buyers’ snowplow assemblies are mounted to a vehicle, the assemblies’ lift frame is attached to the mounting frame in a manner that results in the A-frame being supported by the lift frame as evidenced in the diagram below:



(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 15a.) Douglas admits that when the assemblies are mounted on the vehicle, the weight of the A-frame rests on the lift frame so that the A-frame is supported by the lift frame.

Douglas contends, nonetheless, that the language in claim 1 is not limited to mounted assemblies. Without such a limitation, Douglas argues, Buyers’ snowplow

assemblies infringe claim 1 because when it is *not* mounted on the vehicle and resting instead on the jack or support stand, it is then that the A-frame supports the lift frame. The following diagram shows a representation of Buyers' assemblies in their unmounted state:



(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 10a.)

Douglas argues that claim 1's reference to a "mounting means . . . for *affording removal* of the A-frame and the lift frame from the mounting frame as a unit" requires that claim 1 not be limited only to instances when the snowplow assemblies are mounted on the vehicle. '700 pat., col. 13, lns. 36-40 (emphasis added). Douglas is correct in noting that claim 1 covers a snowplow assembly in both the mounted and unmounted position.

The fact that claim 1 applies to both a mounted and unmounted snowplow assembly begs the question whether the structural limitations in claim 1 must always be present in an accused snowplow assembly in *both* positions. As Buyers points out, it would seem illogical to suggest that a *snowplow* assembly infringes claim 1 even though when mounted and actually in use plowing snow, the assembly clearly does not contain the structure to infringe every element, but when unmounted and merely being stored apart from the vehicle it does. Since the claimed invention is a “*removable* snowplow assembly with pivotal lift stand,” however, there is logic to Douglas’s argument that the essence of the invention is its ease of removal and storage of the entire assembly as a single unit by use of an A-frame to support the entire snowplow assembly.

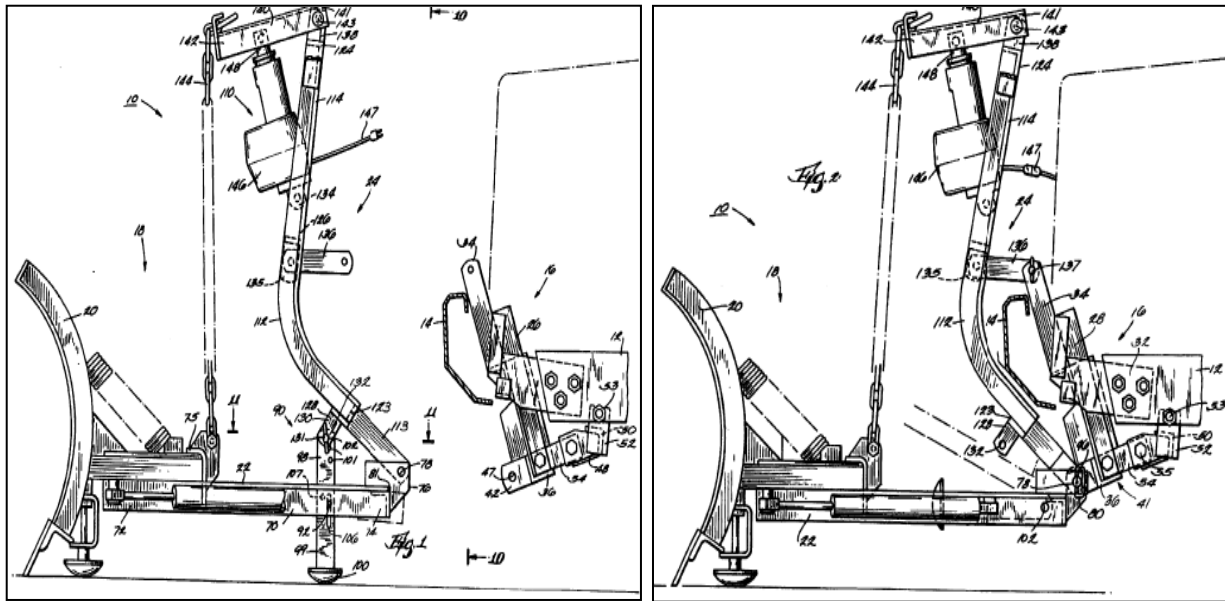
The dispute between the parties is the result of ambiguity in the language in claim 1 as to the required state of the claimed snowplow assembly. Claiming “a lift frame supported by the A-frame” provides no guidance as to whether it is claiming the assembly in its mounted, unmounted or both states. The preamble of claim 1 does describe the invention as a “vehicle *mounted* snowplow blade assembly” as opposed to a mere snowplow blade assembly. ‘700 pat., col. 13, ln. 27. (Emphasis added.) Taken alone, this description provides little, if any, detail to clarify the ambiguity regarding the state of this snowplow blade assembly, other than a description of where the assembly can be mounted.

The patent specification reveals that the inventors were aware of the two positions the assembly could be in: “blade on” or “blade off.” This is hardly a surprise given that one of the patent’s essential objectives is ease of mounting and removal of the plow

assembly. Their decision not to refer to the assembly as being in either “on” or “off” position in claim 1 -- despite repeated use of those terms in the specification -- supports the conclusion that they were not claiming a snowplow assembly in a specific state, but were claiming a snowplow assembly containing certain structures found in both states that produced important functions.

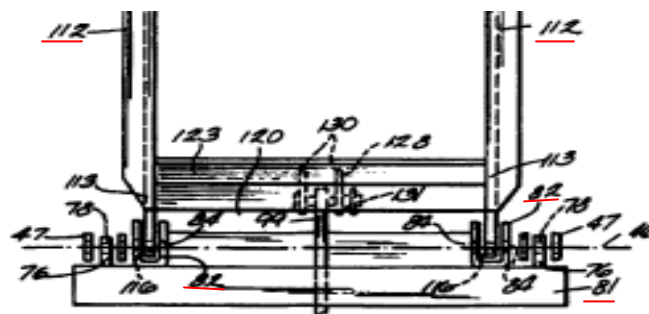
Claim 9, which depends from claim 1, further demonstrates that had the inventors’ wanted to limit a structure’s function in claim 1 to a specific state, they knew how to do so in a clear and concise manner. In claim 9, the inventors state that the “support stand means” must be capable of adjusting the vertical position of the snowplow assembly “when the A-frame is not connected to the mounting frame[.]” ‘700 pat., col. 14, lns. 12-14. This claim language limits the support stand means’ function in adjusting the vertical position of the assembly to the state when the A-frame and mounting frame are not connected (when the assembly is unmounted). The inventors did not provide a similar explanation for when the lift frame is supported by the A-frame.

The specification also discusses the snowplow assembly in both the unmounted or “blade-off” position and in the mounted or “blade on” position. There are figures to show what the assembly would look like in both the unmounted and mounted states:



'700 pat., col. 7, lns. 16-22 ("FIG. 1 illustrates the snowplow assembly 18 in the 'blade-off' position wherein the snowplow assembly 18 is detached from the vehicle. FIG[] 2 . . . illustrate[s] the snowplow assembly 18 in the 'blade-on' position wherein the snowplow assembly 18 is [] connected to [] the mounting frame assembly 16[.]").

Figure 10 in the '700 patent provides a cross section of Figure 1 along line 10-10 that shows a more detailed view of how a preferred embodiment of the lift frame is supported by the A-frame:



In Figure 10, the lift frame's side members 112 are attached to the laterally extending base of the A-frame 81 using a pair of clevises 82 and a bolt. These attachment points

provide the support for the lift frame regardless of whether the plow assembly is mounted or unmounted. Put another way, all the preferred embodiments in the specification teach that the lift frame is *always* supported by the A-frame regardless of whether the entire assembly is mounted or not.

Of course, construing the relevant claim language as limiting the invention to a snowplow assembly in which the lift frame is always supported by the A-frame -- regardless of whether the assembly is mounted or unmounted -- risks reading a limitation from the specification into the claim as opposed to merely using the examples in the specification to help explain an ambiguous element in the invention. Still, claim language must be interpreted in light of the specification, *see Deering Precision Instruments, L.L.C. v. Vector Distribution Systems, Inc.*, 347 F.3d 1314, 1324 (Fed. Cir. 2003), and the fact remains that nowhere in the specification *or* in the claim language is there a description or teaching of a snowplow assembly where the lift frame is *not* supported by the A-frame.

In the end, the proper way to clarify the ambiguity in light of the specification is to limit the claimed invention to an assembly in which the lift frame is always supported by the A-frame in both the mounted and unmounted states. In the crowded field of vehicle mounted snowplow assemblies¹¹ -- a product not new by any stretch of the imagination -- the inventors of the '700 patent were provided patent rights to a specific way of reaching that core objective that includes among other limitations: using a lift

¹¹ One need only look at the prosecution history of reissue of the '700 patent to see the number of patents related to snowplow assemblies. (See File History '700 pat., dkts. ## 47-51.)

frame supported by an A-frame. The inventors recognized as much when they explained that their claimed invention was not the first detachable snowplow assembly. *See* ‘700 pat., col. 1, lns. 44-55. Because in Buyers’ snowplow assemblies the lift frame is not supported by the A-frame when the assemblies are mounted or in the “blade on” position, Buyers’ snowplow assemblies cannot directly infringe independent claim 1, any of the claims that depend from claim 1 and no reasonable jury could find otherwise.

Even assuming that Douglas’s argument regarding the support limitation was correct, Buyers’ snowplow assemblies do not satisfy the additional limitation that the claimed snowplow assembly’s A-frame must be selectively connected to the mount frame. Douglas contends that Buyers’ snowplow assemblies satisfy this additional limitation because the A-frame is connected to the mount frame through the lift frame and that this *indirect* connection is all that is required by the claim. Accepting Douglas’s argument would impermissibly broaden the scope of the claim.

Although variations of the term “connect” are used throughout the ‘700 patent’s claims, the claim language is generally silent about the method of connection. *See, e.g.*, ‘700 pat., col. 13, lns. 36-42. A close examination of the specification, however, reveals that it teaches only connections between the lift frame and the mounting frame and the A-frame and the mounting frame using structures attached directly onto those frames. Neither the specification nor any of the claim language refers to a more removed connection between an A-frame, lift frame or mounting frame in which one frame’s connection to another occurs through a third frame.

There is a lone discussion of a structure connection through another structure, but this teaching only lends additional support to limiting the scope of the connection required between the A-frame and the mounting frame to a direct one. The relevant portion of the specification provides for

A snowplow assembly **18** including a snowplow blade **20** [] connectable to the mounting frame assembly **16** *through* an A-frame **22** which extends forwardly from the vehicle. A lift frame assembly **24** is pivotally connected to the A-frame **22** and is releasably connectable to the mounting frame assembly **16**.

‘700 pat., col. 4, lns. 49-54 (emphasis added.) This section of the specification makes clear that the inventors understood that the blade would be connected to the vehicle through the A-frame. It, however, also establishes that the connection between the A-frame and mount frame and the connection between the lift frame and the mount frame were two separate and direct connections because the lift frame is described as being connected to both the A-frame and the mounting frame.

Even the description in the summary of the invention provides the picture of a snowplow assembly where the A-frame’s structure is connected directly to the mount frame structure, the lift frame structure is connected directly to the A-frame and in turn may also be directly connected to the mount frame structure. ‘700 pat., col. 2, lns. 57-66 (“The snowplow assembly includes mounting means for pivotally connecting the A-frame to the mount frame The lift frame is pivotally connected to the A-frame The lift frame is *also* selectively connectable to the mount frame on the vehicle so that the lift frame can be secured to the vehicle when the A-frame is attached to the vehicle[.]” (Emphasis added)). If Douglas’s interpretation of the A-frame connection limitation

were accepted, then certainly there would have been at least one mention in the specification that the lift frame's connection to the A-frame was an additional connection to the mounting frame. Instead, the A-frame's connection to the lift frame is never discussed as anything other than a connection of those two frames using structures directly attached to those frames.

Douglas, nonetheless, argues that an indirect connection between the A-frame and the mounting frame is permissible because an embodiment in the specification shows only an indirect connection between the support frame and the mounting frame. Specifically, Douglas contends that figures 11 and 12 in the '700 patent do not show any direct connection between the support frame and the mounting frame.

The specification points to the mount frame link as the structure used to connect the lift frame to the mounting frame. The mount frame link is located on the lift frame and marked as 136 in every diagram in which it appears. For example:

Figure 1

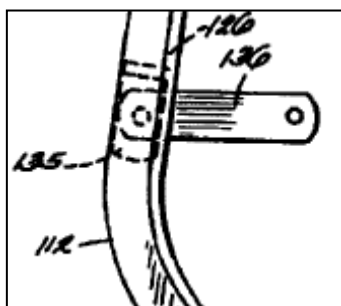


Figure 2

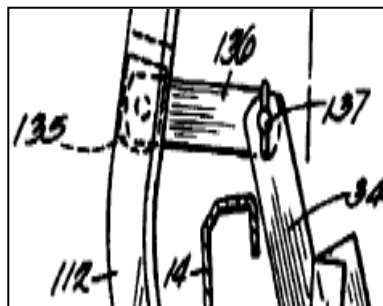


Figure 6

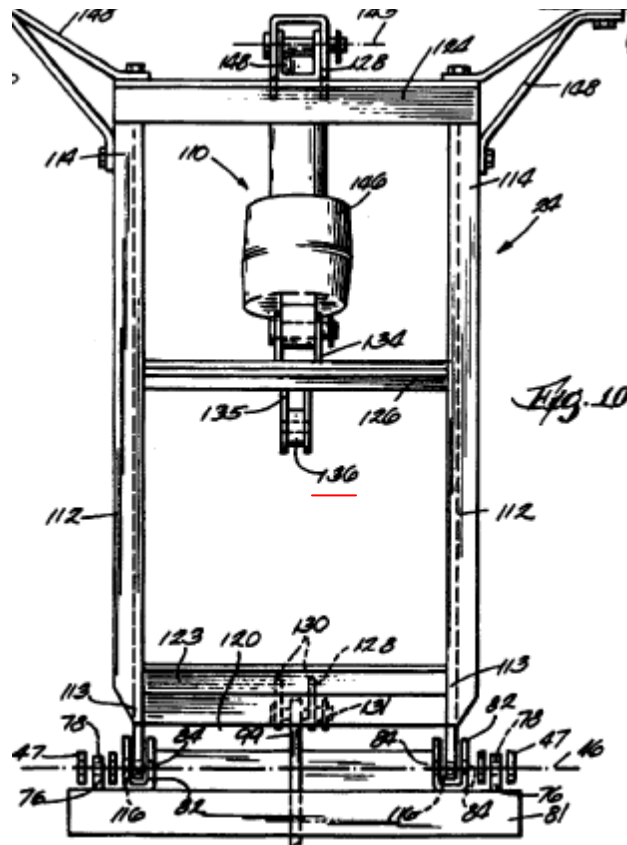


The lift frame's mount frame link is then connected to the mounting frame using either mount frame clevis 34 or hitch arm 68. See '700 pat., col. 12, lns. 15-32. This connection point is the *only* connection point between the lift frame and the mounting

frame taught by the specification. There is no mention that the lift frame's connection to the A-frame provides any kind of connection to the mounting frame.

Turning to the other figures to which Douglas would point the court, the mount frame link is absent from Figure 11 only because Figure 11 is a cross-sectional view of Figure 1 that looks at Figure 1 from above at a point below where the mount frame link is positioned on the lift frame. Further, because Figure 11 is merely a cross-sectional view of Figure 1, all the structures found in Figure 1, one of which is the mount frame link, is necessarily assumed present in Figure 11 even if not actually pictured.

As for Figure 10, it is also a cross-sectional view of Figure 1 accept it is taken from a side view. In Figure 10, the mount frame link is again provided for at **136**, as seen in the middle of the figure:



In fact, Figure 10 provides the exact type of link covered by the invention. The A-frame is connected to the mounting frame using pins 80--not pictured--put through pin holes 47 and 78 found in the mounting lugs 42--not pictured--on the mounting frame and the plates 76 located on the A-frame's base member 81. The A-frame is connected to the lift frame using a bolt 118--not pictured--put through bolt holes 84 and 116 found in the clevises 82 on the A-frame's base member and the mounting plates 115--not pictured--located on the lower portion of the lift frame.

No reasonable jury could find that Buyers' snowplow assemblies have an A-frame connected to the mounting frame as required by the '700 patent. The A-frame in Buyers' assemblies is connected to the lift frame which in turn is connected to the mounting

frame. Although in a very general sense the A-frame is “connected” to the mounting frame, albeit through the lift frame, this “connection” is not what is being taught by claim 1 or the specification. The invention being claimed by the ‘700 patent requires that the A-frame and the mounting frame be directly attached in some manner, such as through welding. There is no such attachment between its A-frame and mounting frame. Buyers’ assemblies have this type of connection between its lift frame and the mounting frame.

In light of the proper scope of those limitations, no reasonable jury could find that Buyers’ snowplow assemblies have a lift frame always supported by an A-frame or an A-frame connected to a mounting frame using structures attached directly onto those frames. Accordingly, Buyers’ assemblies do not directly infringe independent claim 1 or any of the claims that depend from claim 1.

B. Claim 38

Independent claim 38 is almost identical to claim 1 except it is limited to a snowplow assembly that has “a light fixture supported by the A-frame” as opposed to a “lift frame supported by the A-frame[.]” ‘700 pat., col. 17, ln. 48; col. 13, ln. 35. In Buyers’ assemblies the light fixture is attached to the lift frame, which is not supported by the A-frame when the snowplow assemblies are attached to the vehicle. The light fixture, therefore, is not supported by the A-frame when the assemblies are mounted on the vehicle. In other words, Buyers’ snowplow assemblies do not infringe this limitation

for the same reason it does not infringe the “lift frame supported by the A-frame” limitation in claim 1.

Further, claim 38 requires the same connection between the A-frame and mounting frame as required under claim 1. As explained, Buyers’ snowplow assemblies do not provide such a connection. Because in Buyers’ snowplow assemblies the light fixture is not supported by the A-frame when the assemblies are mounted or in the “blade on” position and the A-frame is connected to the mounting frame through the lift frame, Buyers’ snowplow assemblies cannot directly infringe independent claim 38 or any of the claims that depend from claim 38 and no reasonable jury could find otherwise.

C. Claim 45

Independent claim 45 is similar to claims 1 and 38. Claim 45, however, does not require what it refers to as “a support frame”¹² to be supported by the A-frame. Instead, it limits the invention to “a support frame connected to the A-frame.” Accepting Douglas’s proposal that the term “‘support frame’ is simply used in lieu of the [term] ‘lift frame[,]’” (Garris Report, Vol. 3, dkt. #128, ¶157), what has previously been labeled the lift frame on Buyers’ snowplow assemblies will now be referred to as the support frame as far as claim 45 is concerned. Looking at the diagrams of Buyers’ snowplow assemblies above, it is clear that the support frame is connected to the A-frame.

¹² Buyers argues in its invalidity motion that the term “support frame” is an indefinite element of claim 45 and, as such, claim 45 is invalid. In its noninfringement motion, Buyers contends that even assuming the term “support frame” were definite as merely comparable to the “lift frame” discussed in the specification, its snowplow assembly does not infringe because its assembly does not have an “A-frame and support frame connected to the mounting frame.”

Another difference between claim 45 and claims 1 and 38 is that claim 45 requires that both the A-frame and the support frame be connected to the mounting frame of the assembly. *Compare* ‘700 pat., col. 13, lns. 35-36 (Claim 1: “mounting means for selectively connecting the A-frame to the mounting frame . . .”) *and* col. 17, lns. 50-51 (Claim 38: “mounting means for selectively connecting the A-frame to the mounting frame . . .”) *with* col. 18, lns. 51-52 (Claim 45: “wherein the A-frame and the support frame are connected to the mounting frame . . .”). Buyers does not dispute that its support frame is connected to the mounting frame. As previously discussed, however, the A-frame is not connected to the mounting frame as taught by the patent. Rather, the A-frame is connected to the support or lift frame, which in turn is connected to the mounting frame.

Douglas disagrees and argues that Buyers’ snowplow assemblies infringe claim 45 because the *indirect* connection between the two frames, which occurs through the support frame, is sufficient to satisfy the A-frame connection limitation, even if the A-frame in Buyers’ assemblies is not *directly* connected to the mounting frame.¹³ Assuming that the claim language would permit some sort of indirect connection -- an assumption unsupported by the specification as discussed in analyzing claim 1 -- Douglas’s proposal that an indirect connection through the support frame can satisfy the A-frame connection

¹³ Douglas’s argument with respect to the “A-frame connection” limitation is identical to its argument regarding that similar limitation in claims 1 and 38. Discussion of those same arguments will not be repeated. Suffice it to say that in addition to the specific reason given with regard to the different language in claim 45, Douglas’s argument regarding the A-frame connection fails for the same reasons it failed with respect to claims 1 and 38.

limitation cannot be right because it would make the limitation in claim 45 that the support frame also be connected to the mounting frame superfluous.

The claim language already requires that the A-frame be connected to the support frame. If the A-frame connection limitation was satisfied by having the A-frame “connected” to the mounting frame through its connection to the support frame, then there would be no need for the limitation that the A-frame be connected to the mounting frame. Construing the claim language in that manner, which renders the A-frame connection limitation superfluous is, at best, disfavored. *See Merck & Co. v. Teva Pharmaceuticals USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”).

To be clear, no reasonable jury could find that Buyers’ snowplow assemblies have an A-frame connected to the mounting frame as required by the ‘700 patent. The A-frame in Buyers’ assemblies is connected to the support/lift frame which in turn is connected to the mounting frame. The general “connection” between the A-frame and the mounting frame is not what is being taught by claim 45.¹⁴ The invention described in claim 45 requires that the A-frame and the mounting frame each have structures directly attached to them in some manner, such as through welding, that serve as connection points between the two frames. Buyers’ assemblies have no such connection between its A-frame and mounting frame. Because in Buyers’ snowplow assemblies the A-frame is not connected to the mounting frame in the manner required by the patent,

¹⁴ As previously discussed, the same is true of the connection required in claims 1 and 38.

Buyers' snowplow assemblies cannot directly infringe independent claim 45, or any of the claims that depend from claim 45, and no reasonable jury could find otherwise.

D. Indirect infringement

Douglas's assertion that Buyers' snowplow assemblies indirectly infringe claims 1, 38 and 45 of the '700 patent when the assemblies are combined with a vehicle fail because, as discussed above, there is no underlying direct infringement of any of the claims of the '700 patent. *Linear Technology Corp.*, 379 F.3d at 1326 ("There can be no inducement or contributory infringement without an underlying act of direct infringement.").

V. The '530 Patent

The '530 patent is another of the three concerned with mounting and removing a snowplow assembly. Douglas asserts that Buyers' snowplow assemblies infringe independent claim 1 and dependent claims 3, 4, 5 and 7. Claim 1 reads as follows:

For use with a vehicle having a frame and a front bumper, a snow plow assembly, comprising:

a mount frame for connection to the vehicle frame behind the bumper,¹⁵

¹⁵ This limitation was erroneously printed twice in claim 1 by the United States Patent and Trademark Office. There is no doubt that this was simply a scrivener's error. There is no teaching in the specification regarding an assembly with two mount frames connected to the vehicle. This absence in the specification, along with the fact that the mount frame limitation is repeated word for word, leaves no room for reasonable debate that this a typographical error. *Lucent Tech., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1215 n.8 (Fed. Cir. 2008). Accordingly, the court reads the claim as requiring only one "mount frame for connection to the vehicle frame behind the bumper."

a lift assembly including an A-frame, a lift frame and a snow blade,

the snow blade mounted on the forward end of the A-frame,

the lift frame including means for pivotally connecting the rear end of the A-frame to the lift frame whereby the A-frame is free to rotate relative to the lift frame and means for releasably connecting the lift frame to the mount frame affording removal of the lift assembly from the mount frame as a single unit so as to leave the mount frame on the vehicle, and

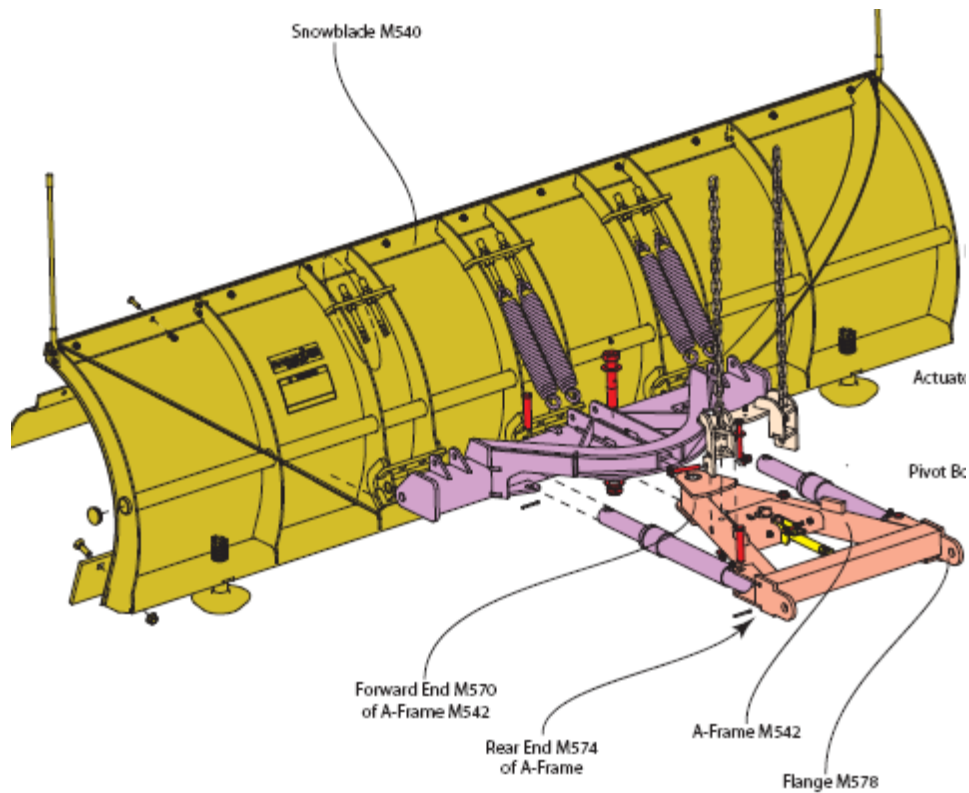
the releasably connecting means including a U-shaped channel located at a position behind the vehicle bumper when the lift frame is connected to the mount frame, the channel defined by a pair of upstanding legs connected by a lower bight portion with the legs extending in the direction of travel of the vehicle.

‘530 pat., col. 6, lns. 13-37.

A. Claim 1

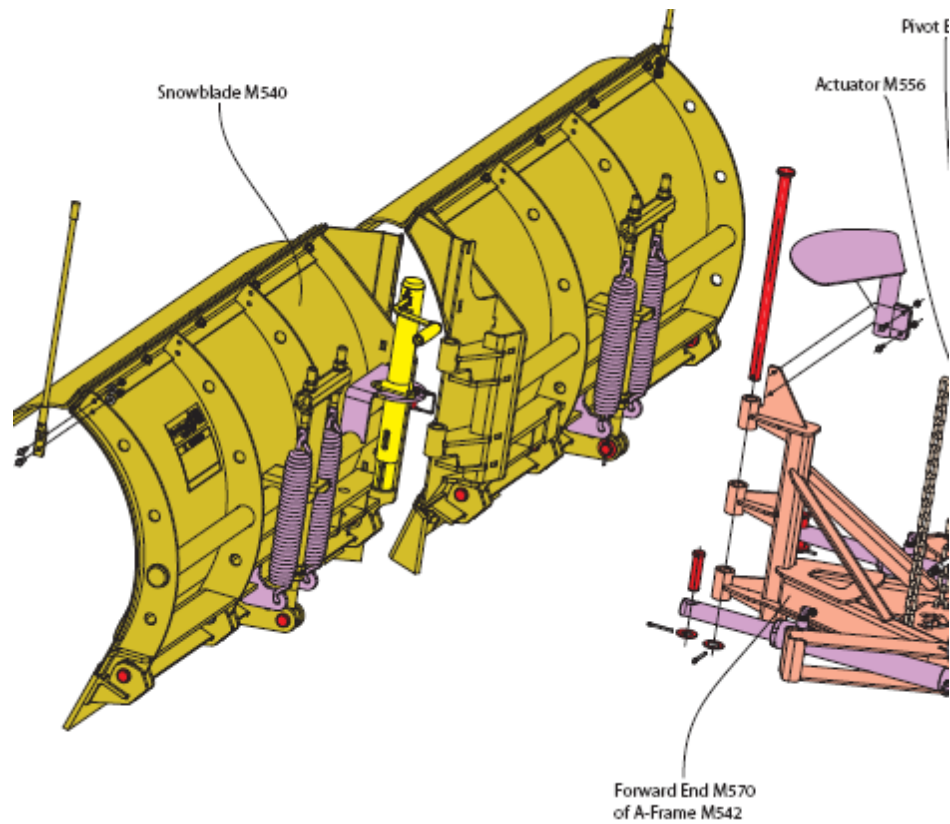
1. The snow blade mounted on the forward end of the A-frame

Buyers’ different snowplow assemblies connect the A-frame and the snow or plow blade in slightly different ways. Buyers’ CM series assembly is the biggest plow sold by Buyers and is designed for medium and heavy duty commercial and municipal applications. The CM series uses a pushbar--in purple--to mount the snow blade on the A-frame:



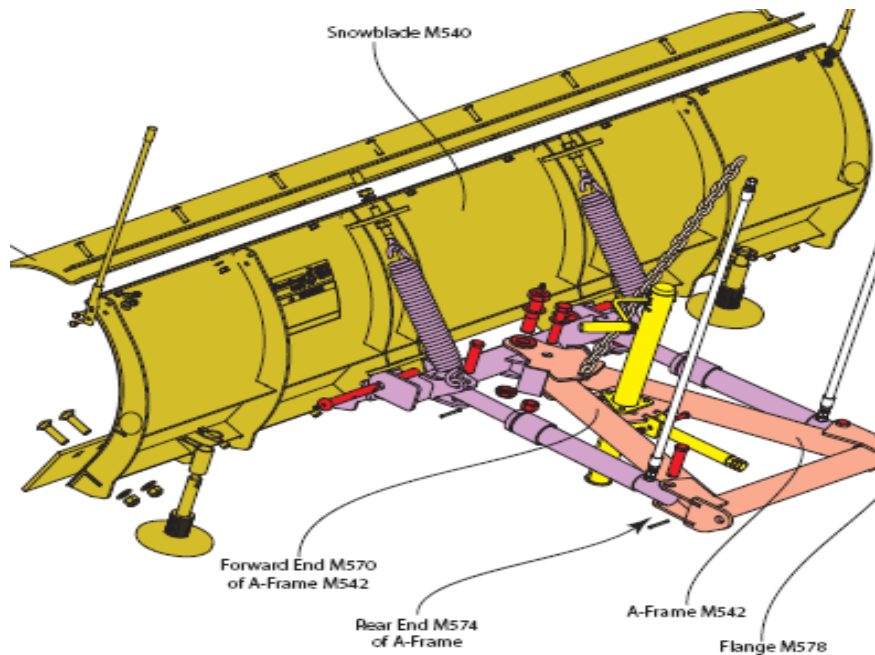
(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 1a.)

Buyers VX series assembly is a V-plow that has two snow blade portions pivotally connected by a vertical pivot pin. Each half of the V-plow can be moved through hydraulic actuators to provide different staggering of the plow. The VX series uses a hinge-pin assembly--in red--to mount the snow blade on the A-frame:



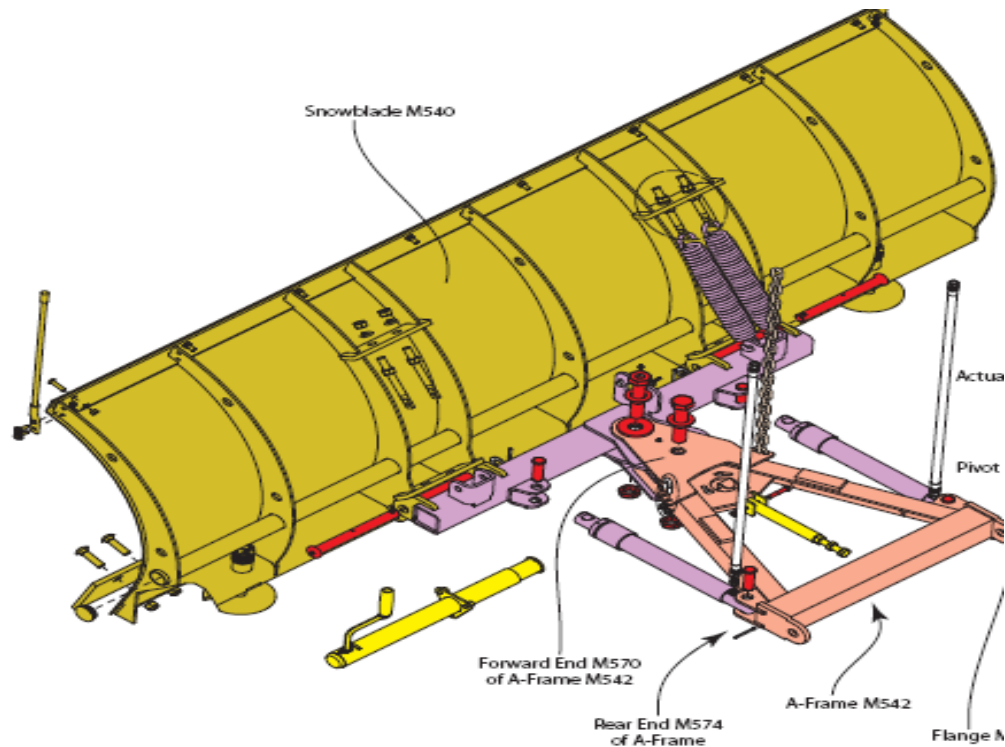
(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 1b.)

Buyers' MD series assembly is a medium duty plow for use with light duty trucks and SUVs. Similar to the CM series, the MD series uses a pushbar--in purple--to mount the snow blade on the A-frame:



(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 1c.)

Buyers' HD/EX series assembly is designed for commercial users and larger trucks. The HD/EX series also uses a pushbar--in purple--to mount the snow blade on the A-frame:



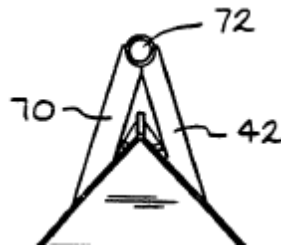
(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 1d.)

Buyers argues that none of its snowplow assemblies have a “snow blade mounted on the forward end of the A-frame,” but they all have snow blades mounted on other intervening structures, such as a pushbar. Douglas contends that the relevant claim limitation does not require that the blade be *directly* mounted on the A-frame. This time Douglas has the better of the arguments.

Douglas supports its argument with its expert’s opinion that “[o]ne of ordinary skill in the art at the time of the invention would understand that fixing or mounting a snowplow blade to an A-frame may be accomplished th[r]ough intervening or direct connections between the A-frame and snowplow blade.” (Garris Expert Report, Volume 2, dkt. #127, ¶20.) Garris does not explain who exactly one skilled in the art would be and, even assuming he is one of ordinary skill in the art, he still does not explain why

such a person would understand that both direct *and* indirect mounting was permissible. This opinion, therefore, is unsupported. As such, it is unpersuasive and unhelpful in determining how to define the scope of the relevant limitation.

The claim language itself says nothing about whether the mounting of the snow blade on the forward end of the A-frame must be a direct mount or can permit intervening structures. The specification provides a single explanation about how the snow blade is mounted on the A-frame: “Snow blade 40 is pivotally connected to the forward end 70 of A-frame 42 to a ring 72.” ‘530 pat., col. 4, lns. 32-34. A diagram of the forward end of A-frame, including its ring, but without a mounted snow blade, is provided in Figure 4:



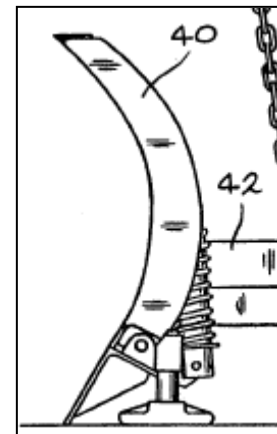
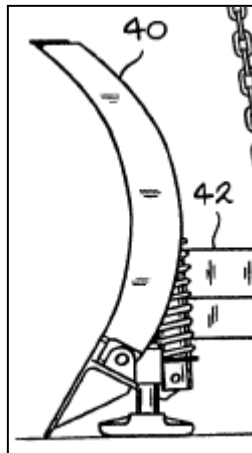
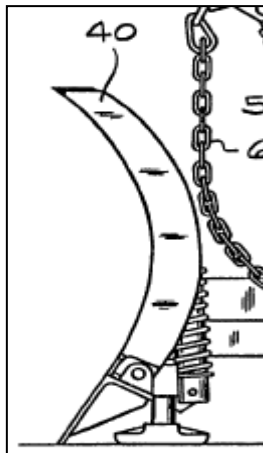
Nothing else in the specification explains how the snow blade must or even should be mounted to the A-frame.

The ‘700 patent included a discussion in the specification, as well as clear figures teaching about the proper connection between the lift/support frame and A-frame and between the A-frame and mounting frame. In the ‘530 patent, however, nothing is taught or shown about the mounting of the snow blade on the A-frame. In fact, most of the figures are drawn such that it is impossible to tell how the mounting is accomplished:

Figure 1:

Figure 2:

Figure 3:



This lack of discussion, explanation or presentation about mounting of the snow blade shows that the manner in which the plow or snow blade is mounted on the A-frame is of secondary importance. Put another way, it really does not matter how the snow blade is mounted on the A-frame, so long as it can be considered “mounted on” the A-frame.

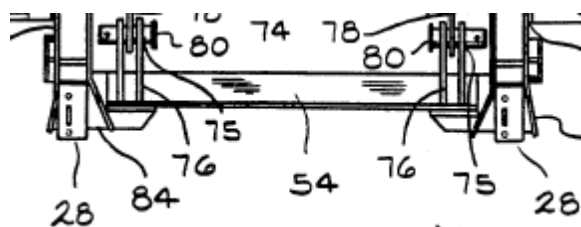
Turning to a dictionary for the plain and ordinary meaning of “mounted on,” the phrase is defined as to “place or fix (an object) on an elevated support: *fluorescent lights are mounted on the ceiling.*” *New Oxford American Dictionary*, 1107 (2d ed. 2005). Other courts have correctly construed “mounted” to mean “securely affixed or fastened to.” *See, e.g., Felix v. Am. Honda Motor Co.*, 562 F.3d 1167, 1177 (Fed. Cir. 2009) (term “mounted” in limitation “being mounted” properly construed to mean “securely affixed or fastened to”). Here, it is proper to consider the plain and ordinary meaning of “the snow blade mounted on the forward end of the A-frame” to mean “the snow blade securely affixed or fastened to the forward end of the A-frame.”

Even a glance at each of Buyers’ snowplow assembly series shows that the snow blade is securely fastened to the forward end of the A-frame for support. The pushbar used in several of the series merely provides a more secure fastening between the blade

and the A-frame. Also, the hinge-pin assembly used in the VX series looks comparable to the “ring” provided for in the specification. Even viewing the facts in a light most favorable to Buyers, no reasonable jury could find that use of a pushbar or hinge pin assembly to connect the snow blade and the A-frame does anything other than provide a secure fastening of the snow blade to the forward end of the A-frame. Accordingly, Buyers’ snow plow assemblies all fall within the snow blade mounting element of claim 1.¹⁶

2. Means for pivotally connecting the rear end of the A-frame to the lift frame

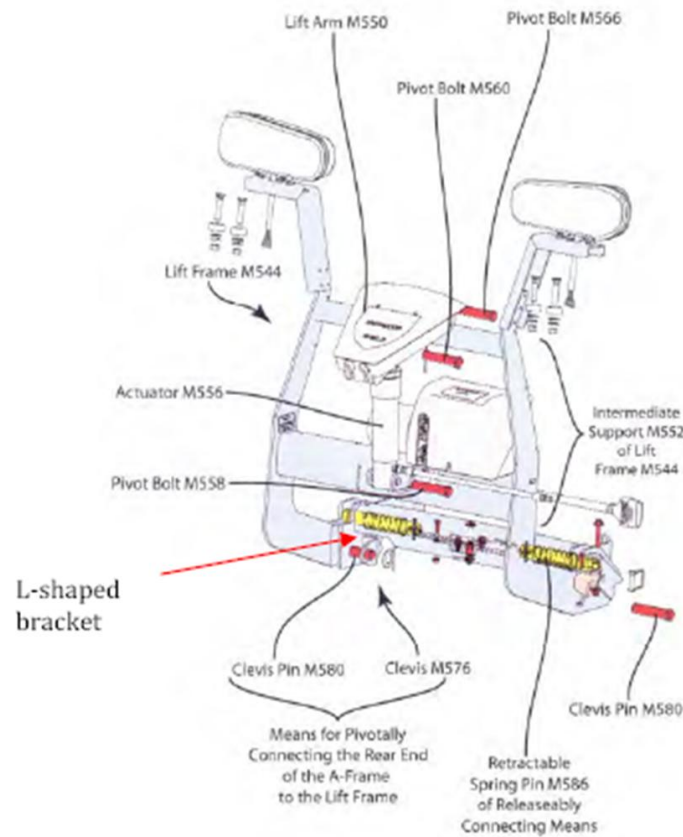
This claim term has already been construed as a means-plus-function limitation. (See Claim Const. Order, dkt. #91, at 43-44.) The claimed function is just what the claim says: pivotally connecting the rear end of the A-frame to the lift frame. The structures clearly linked with that function are a pair of spaced clevises, pins and their equivalents. Figure 4 provides a visual embodiment of these structures:



The spaced clevises are numbered 76 and the pins are numbered 80.

¹⁶ Buyers does not dispute that its assemblies also include a mount frame for connection to a vehicle frame behind the front bumper as well as a lift assembly that includes an A-frame, lift frame and snow blade. Buyers’ assemblies, therefore, satisfy those claim 1 elements as well.

Buyers contends that its snowplow assemblies do not have a lift frame with clevises but instead its assemblies use an L-shaped bracket attached to the inner member of the lift frame:



(Tucker Decl., dkt. #172, ex. E, Pahl Non-infringement Chart at 152.) A closer look at what Buyers labels an “L-shaped bracket” shows exactly what it means by this label:



(Garris Expert Report, Volume 1, dkt. #126, app. B, ex. 1a.)

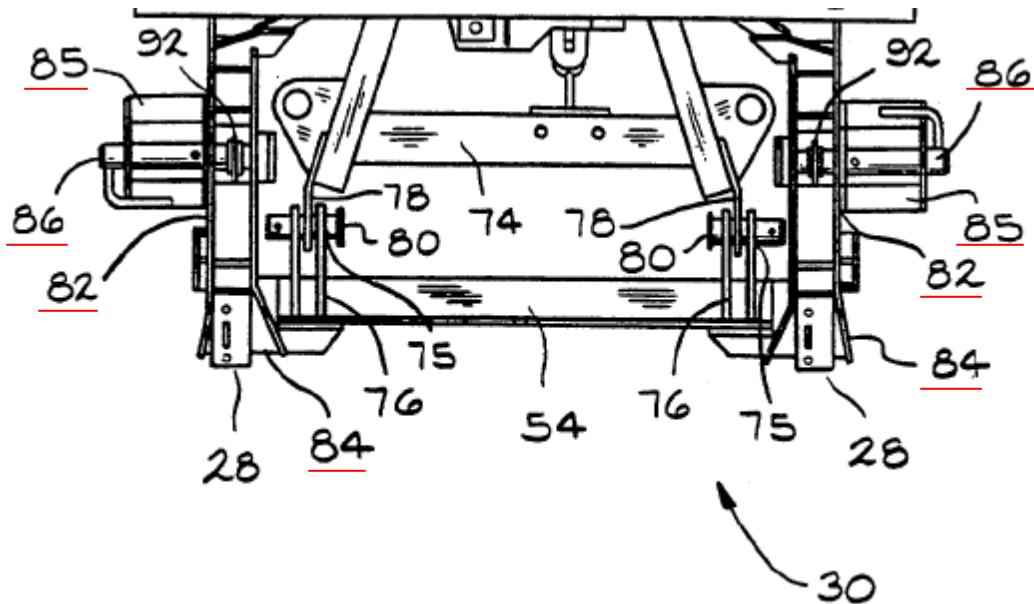
As previously explained in the court's claim construction order, "A clevis is a U-shaped or forked metal connector within which another part can be fastened by means of a bolt or pin passing through the ends of the connector." (Claims Constr. Order, dkt. #91, at 37 (internal quotation omitted).) In light of this definition, Buyers is arguing that its L-shaped bracket welded onto the lift frame is not a clevis because one side of what would be a U-shape is merely the inner portion of the lift frame. This argument is too far-fetched.

No reasonable jury could find that the L-shaped bracket welded to the lift frame forms anything but a clevis. Although it is not a separate structure, nothing in the claim language or the court's construction requires the clevises to be their own, separate structures. Even stretching logic to assume the L-shaped bracket welded to the lift frame does not form a structure *identical* to a clevis, there is no doubt that it forms a structure *equivalent* to a clevis. Indeed, Buyers does not, and cannot, dispute that the L-shaped bracket welded to the lift frame in conjunction with a pin function together to pivotally connect the A-frame to the lift frame. In other words, the structure serves the identical function as the clevis and is, at the very least, equivalent. Any further, reasonable doubt on this point is ended by reference to Buyers' own manuals for their snowplow assemblies, in which the pin used with the L-shaped bracket to connect the lift frame to the A-frame is identified as a "clevis pin." (*See, e.g.*, Garriss Expert Report, Volume 1, dkt. #126, app. C, ex. 2 at BP0003927 (item 8 identified as "Clevis Pin Kit, A-frame to Lift Frame w/ HDW").)

Because Buyers' snowplow assemblies use a lift frame that has a clevis or clevis-like structure used in conjunction with a pin to pivotally connect the rear end of the A-frame to the lift frame whereby the A-frame is free to rotate relative to the lift frame, the assemblies satisfy the pivotally connecting means element of claim 1.

3. Means for releasably connecting the lift frame to the mount frame affording removal of the lift assembly from the mount frame as a single unit so as to leave the mount frame on the vehicle

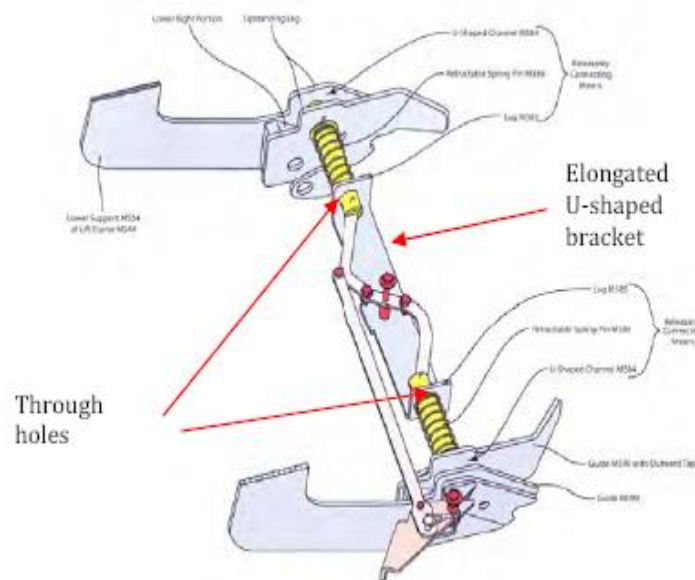
The structures clearly linked with the above means-plus-function limitation are a pair of U-shaped spaced channels, a pair of lugs each carrying a spring biased retractable pin and their equivalents. An example of these structures is provided in Figure 4 from the '530 patent:



According to the specification, “[i]n the embodiment illustrated in FIG. 4, connecting means 82 includes a pair of U-shaped channels 84 and a pair of lugs 85 each for carrying

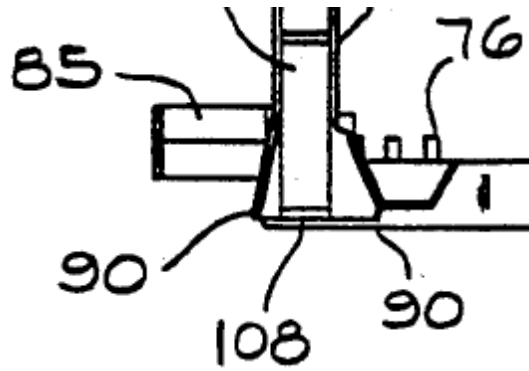
a spring biased retractable pin 86 connected to the outside of each of the channels.”
 ‘530 pat., col. 4, lns. 42-48.

Buyers does not dispute that its snowplow assemblies have structures that perform the claimed function. Instead, Buyers argues that its assemblies use an elongated U-shaped member having a through hole on each side for receiving a pin instead of the pair of lugs described in the patent specification:



(Tucker Decl., dkt. #172, ex. E, Pahl Non-infringement Chart at 153.) Buyers provides two reasons why its elongated U-shaped bracket is not a pair of lugs: (1) the elongated U-shaped bracket is a single structure and therefore it cannot be a *pair* of lugs; (2) a lug is a projection on an object and the elongated U-shaped bracket is not a projection on the U-shaped channels as shown in the specification of the patent.

The lugs shown in the patent are protruding from the outside of the lift frame:



'530 pat., Figure 6 (lug is shown as number 85). That they protrude or project from the lift frame makes sense in light of the plain and ordinary meaning of a "lug" which is "a projection on an object by which it may be carried or fixed in place: *mount the fitting directly to the lugs at each side of the box.*" *New Oxford American Dictionary* 1008 (2d ed. 2005).¹⁷ The structures in the patent would not be "lugs" if they were not projecting from something.

The U-shaped bracket used in Buyers' assemblies is not a projection on anything. Instead, Buyers placed the structure for carrying a spring biased retractable pin on the inside of the lift frame. Thus, Buyers' U-shaped bracket is not identical to a lug or a pair of lugs.

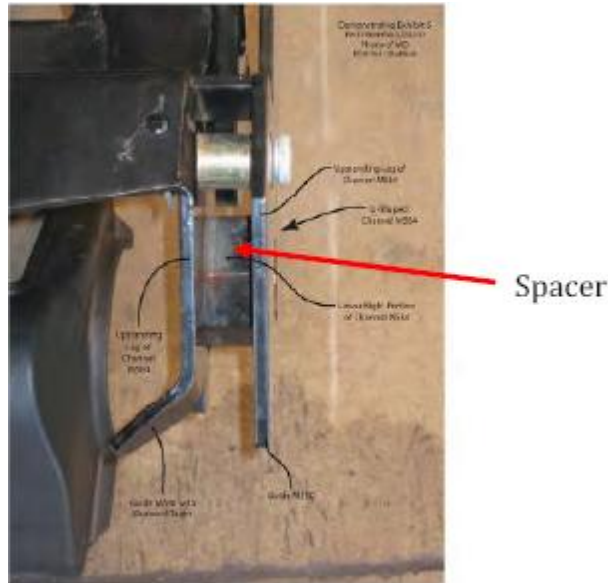
But this does not prevent infringement because the lugs are a structure in a means-plus-function limitation, Buyers' U-shaped bracket can infringe if it is merely equivalent to a lug. So long as the U-shaped bracket performs the claimed function in substantially the same way to achieve substantially the same result as the lugs described in the specification the limitation will be satisfied. *See Hearing Components, Inc.*, 600 F.3d at

¹⁷ Douglas provides similar definitions of a lug: "a projection on a casting to which a bolt or other part may be fitted," or "a small projecting part of a larger member." (Pl.'s Br. in Supp., dkt. #159, at 21.

1370. There is no dispute that the U-shaped bracket carries a spring biased retractable pin that is used to releasably connect the lift frame to the mount frame in Buyers' snow plow assemblies; this is the identical result as that reached using lugs. Further, the difference in how that result is achieved is minor or insubstantial and Buyers has failed to show that a reasonable jury could find otherwise. Instead of putting the spring biased retractable pins on the outside of the lift frame, Buyers merely put those pins on the inside. The U-shaped bracket is undoubtedly an equivalent structure to the pair of lugs provided for in the specification and no reasonable jury could find otherwise. Accordingly, Buyers' snowplow assemblies satisfy the releasably connecting means element of claim 1.

4. U-shaped channel

Claim 1 requires a U-shaped channel "defined by a pair of upstanding legs connected by a lower bight portion with the legs extending in the direction of travel of the vehicle." '530 pat., col. 6, lns. 31-37. Buyers contend that its snowplow assemblies do not contain such a U-shaped channel because its U-shaped channels use a spacer and not a lower bight portion that connects the entire length of the upstanding legs:



(Tucker Decl., dkt. #172, ex. E, Prahl Non-infringement Chart at 154.)

Unfortunately for Buyers, nothing in the '530 patent requires that the lower bight portion run the full length of the upstanding legs of the U-shaped channels. All that is required is a connection between the legs. Buyers' "spacer" clearly performs this function. Because Buyers' spacer provides a lower bight portion connecting the upstanding legs that define the U-shaped channels in its snowplow assemblies, those assemblies satisfy the U-shaped channels element of claim 1 and no reasonable jury could find otherwise.

5. Infringement of claim 1

All of Buyers' noninfringement arguments concerning claim 1 fail. Conversely, Douglas has shown that under the undisputed facts Buyers' snowplow assemblies satisfy each and every element in claim 1. Accordingly, Buyers' six snowplow assembly series--MD, HD/EX, VX, CM, XP and TE--directly infringe claim 1 of the '530 patent.

B. Dependent claim 3

In addition to the elements in claim 1, claim 3 requires that the releasably connecting means use a retractable pin. There is no dispute that all of Buyers' snowplow assemblies use such a pin. Accordingly, Buyers' six snowplow assembly series directly infringe claim 3 of the '530 patent and no reasonable jury could find otherwise.

C. Dependent claim 4

In addition to the elements in claim 1, claim 4 requires the use of an actuator for raising and lowering the A-frame. There is no dispute that all Buyers' snowplow assemblies use such an actuator. Accordingly, Buyers' six snowplow assembly series directly infringe claim 4 of the '530 patent and no reasonable jury could find otherwise.

D. Dependent claim 5

In addition to the elements in claim 1 and 4, claim 5 requires a lift frame that "includes a lift arm and an intermediate support, one end of the lift arm pivotally connected to the upper end of the intermediate support, the other end of the lift arm pivotally connected to one end of the actuator, the other end of the actuator connected to the lower end of the intermediate support." '530 pat., col. 6, lns. 46-53. There is no dispute that all Buyers' snowplow assemblies have lift frames that include such a lift arm and intermediate support. Accordingly, Buyers' six snowplow assembly series directly infringe claim 5 of the '530 patent and no reasonable jury could find otherwise.

E. Dependent claim 7

In addition to the elements in claim 1, claim 7 requires use of a pushplate for connecting the lift frame to the mount frame. There is no dispute that all Buyers' snowplow assemblies use such a pushplate. Accordingly, Buyers' six snowplow assembly series directly infringe claim 7 of the '530 patent and no reasonable jury could find otherwise.

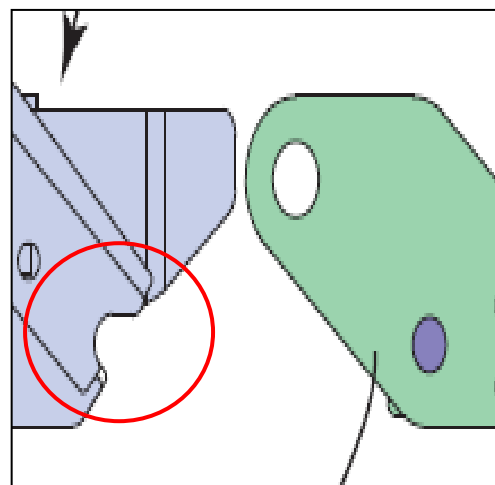
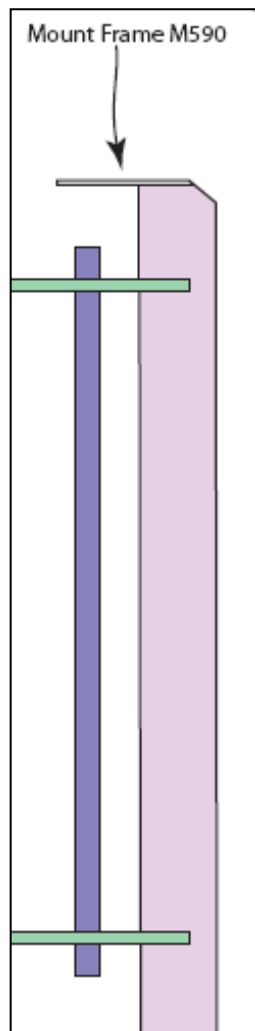
VI. The '978 Patent

The '978 patent is the third of Douglas's patents regarding the mounting and removing of a snowplow assembly. The '978 patent focuses in on the latch mechanism used to attach and detach the snowplow assembly. Douglas asserts that Buyers' snowplow assemblies infringe independent claims 28, 53, 57, 58 and 59 as well as dependent claims 29-31, 35-36 and 54-56. All the asserted independent claims contain the following element:

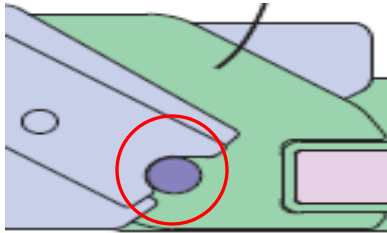
one of said mount frame and said snowplow frame having first and second arms and the other of said mount frame and said snowplow frame having first and second receivers, said first and second receivers receiving said first and second arms, respectively upon relative movement there between in a direction generally parallel to the longitudinal axis of the vehicle.

See '978 pat., col. 10, lns. 15-21; col. 12, lns. 45-51; col. 13, lns. 10-16 & 35-41; col. 14, lns. 8-14. Buyers contends that its snowplow assemblies do not contain the recited element because they do not have arms that are received and they permit movement transverse as opposed to parallel the longitudinal axis.

Buyers' first argument is that instead of arms and receivers, its snowplow assemblies use a crossbar on the mounting frame and a receiving notch on the lift frame. Below, the diagram on the left shows an aerial view of the crossbar--in deep purple--attached to the mount frame; the diagram on the right shows a side view of the notch--circled in red--that will receive the crossbar--the purple circle--when the lift frame--in blue--is connected to the mount frame--in green:

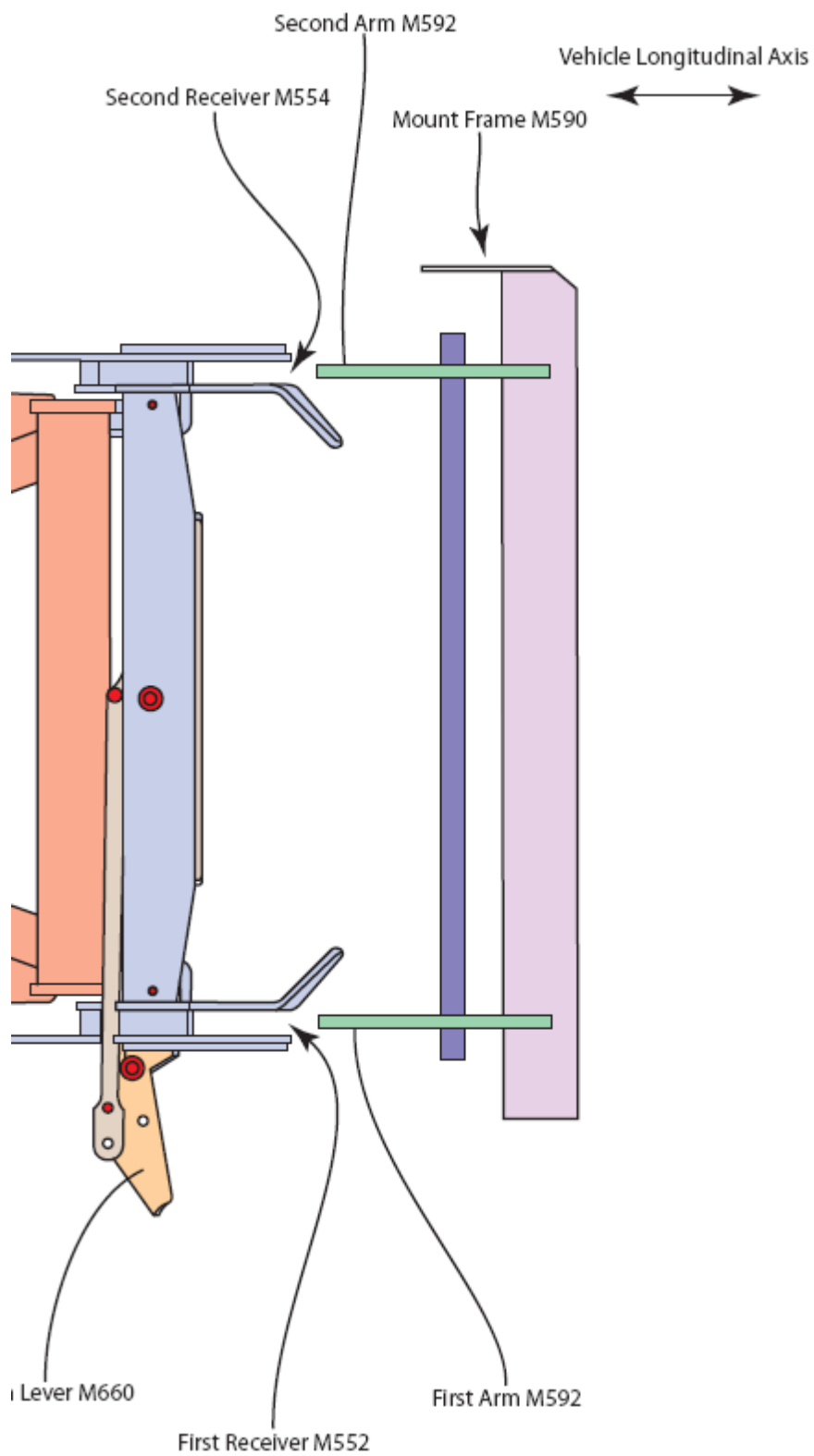


(Garris Expert Report, Volume 1, dkt. #126, app. B, exs. 12a & 14b.) When the lift frame and mount frame are joined the cross-bar fits into the notch as shown in the figure below:

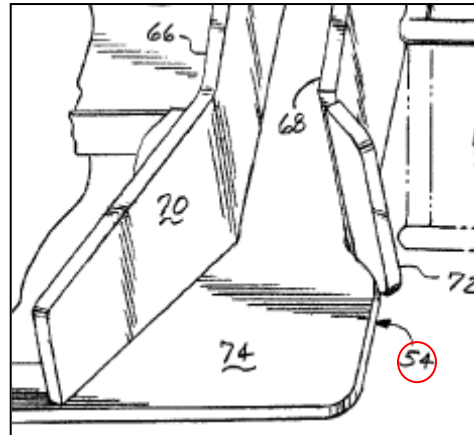
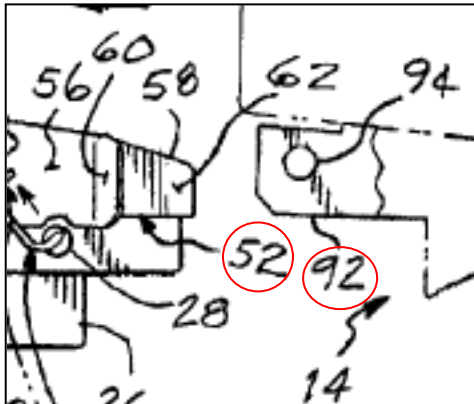


(*Id.*, ex. 15c.)

Douglas does not dispute that Buyers' assemblies use a cross-bar and notch. Douglas contends, however, that Buyers' assemblies still infringe because they use the cross-bar and notch in addition to arms and receivers and use of such additional unclaimed elements does not preclude a finding of infringement. After looking at the figures above and below, there is little doubt that Buyers' assemblies use a cross-bar and a notch as well as receivers and arms:



(*Id.*, ex. 14b.) A look at some of the figures in the '978 patent further supports the conclusion that Buyers' assemblies have arms and receivers as those terms are used in the patent:



These figures show receivers 52 and 54 on the lift frame and one of the arms 92 on the mount frame.

Regardless of the fact that they have cross-bars and notches, Buyers' snowplow assemblies undoubtedly have arms and receivers. Neither the claim language nor the specification says anything from which the inference can be drawn that there cannot be other structures in addition to the arms and the receivers that are used in joining the snowplow frame and the mount frame. In Buyers' assemblies, the arms and receivers are both necessary and sufficient to connect the snowplow frame to the mount frame. In other words, if you remove the cross bar and notch, the connection through the arms and receivers does not change. All Buyers has done is include in its assemblies an additional element on top of those required by the claim language and such an action does not avoid infringement. *See Free Motion Fitness, Inc. v. Cybex Intern., Inc.*, 423 F.3d 1343, 1353 (Fed. Cir. 2005) ("Basic patent law holds that a party may not avoid infringement of a

patent claim using open transitional phrase, such as comprising, by adding additional elements.”).¹⁸

Although not explicitly labeled as such, Buyers also makes an argument founded in the doctrine of prosecution history estoppel.¹⁹ Specifically, Buyers argues that because of arguments Douglas made to the Patent and Trademark Office regarding the uniqueness of the claims that became the ‘978 patent, Douglas is barred from arguing for infringement by Buyers’ assemblies, which contain an element found in prior art that Douglas had argued its claims improved upon. Buyers focuses on the fact that in the patent history of the ‘978 patent Douglas explained its invention was patentable over the prior art because the prior art taught using a pipe oriented transverse to the longitudinal axis of the vehicle whereas its invention taught using arms and receivers moving in a direction generally parallel to the longitudinal axis of the vehicle. (Def.’s Support Br., dkt. #171, at 56.) The patent prosecution history does not, however, help Buyers.

Buyers argument is almost identical to that made by an accused infringer in *Free Motion Fitness, Inc.*, 423 F.3d at 1351-1353. In *Free Motion*, at 1352, the patent holder had to overcome prior art to obtain its patent on an exercise device. The patent examiner

¹⁸ All the independent claims asserted against Buyers use the open transitional phrase “comprising.” See, e.g., ‘978 pat., col. 10, ln. 11 (“A snowplow and mount assembly comprising . . .”).

¹⁹ The doctrine of prosecution history estoppel is a question of law and if it applies it works to bar a patentee from “recaptur[ing] as an *equivalent* subject matter surrendered during prosecution.” *Trading Tech. Intern., Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1355 (Fed. Cir. 2010) (emphasis added). Buyers most likely does not couch its argument in terms of prosecution history estoppel because Douglas does not argue that the cross-bar and notch infringe the ‘978 patent as an equivalent. Douglas’s argues that those elements are merely additional unclaimed elements that do not prevent the assembly from infringing. Despite the lack of label, Buyers argument is essentially a prosecution history estoppel argument and will be treated as such.

initially rejected the pending claims as anticipated by an earlier patent that disclosed “an exercise device wherein the axes of rotation of the adjustable arms are transverse to the axes of rotation of the pulleys.” *Id.* The patent holder overcame the prior art by amending its claims to include “rotating about an axis substantially parallel to the second axis” and arguing that

The undesirable forces created by the transverse orientation of the pulley 38 disclosed by Fitzpatrick is [] in direct contrast with the claimed invention where the axes of the respective pulleys are [] substantially parallel to the axes of rotation of the extension arms. The claimed assembly provides for virtually no variation in cable tension when the extension arms are selectively rotated.

Id. at 1352-53.

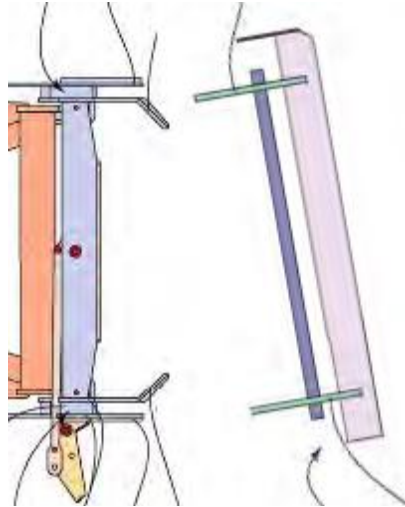
The district court in *Free Motion*, at 1352, determined that the patent holder had “disclaimed a device wherein the axes of rotation of the guide pulleys and the extension arms were perpendicular.” The district court, thus, concluded that the patent holder was estopped from asserting infringement against “a device that--although including extension arms with axes of rotation substantially parallel to the pulleys--also has the undesirable features of [the prior art].” *Id.* at 1353 The Federal Circuit reversed the district court explaining,

The presence of an undesirable prior art feature in addition to the elements recited in the claim, even when the undesirability of that feature formed the basis of an amendment and argument overcoming a rejection during prosecution, does not limit the claim unless there is a clear and unmistakable disclaimer of claim scope. Here, there is no such disclaimer. The “comprising” language allows additional features. The disclaimer, if there was one, only applied to the “claimed assembly,” not unclaimed features added to the patented device.

Id., at 1353.

Buyers has failed to show that Douglas's statement about a piece of prior art's use of a pipe during the prosecution of the claims that became the '978 patent was "a clear and unmistakable disclaimer of claim scope." *Id.* Douglas was merely explaining its improvement on connecting the snowplow frame to mount frame not disclaiming use of its invention with the prior, undesirable features. Further, like the patent in *Free Motion*, at 1353, the '978 patent uses "comprising" language that allows for additional features. Had Buyers used only a cross-bar and notch, without arms and receivers, its argument that use of such elements were outside the scope of the '978 patent's claims would be much stronger. That is not, however, what Buyers did. Because Buyers merely added an unclaimed feature to assemblies that otherwise satisfy the elements in claims using the open transitional phrase "comprising," its assemblies satisfy the arms and receivers elements of the asserted independent claims.

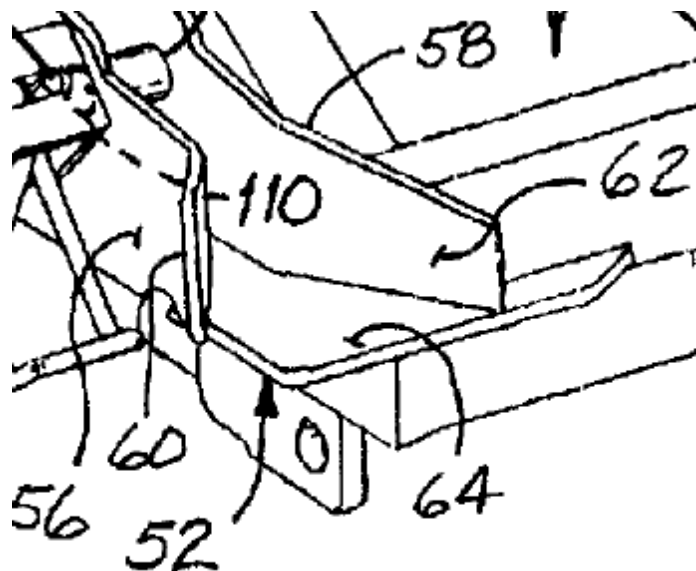
Additionally, Buyers argues that because its assemblies permit lateral or transverse movement when mounting the snowplow, those assemblies do not infringe. Buyers makes this argument while recognizing that the court already determined in its claim construction order that the claim language "generally parallel to the longitudinal axis" permits some transverse movement. (Def.'s Supp. Br., dkt. #171, at 58.) Buyers, nonetheless, contends that its snowplow assemblies permit so much transverse movement that the assemblies cannot be within the scope of the claim. Buyers shows the amount of transverse movement with the following figure:



(Tucker Decl., dkt. #172, ex. E, Prah Non-infringement Chart at 121.) Buyers explains that the figure shows that the mount frame can be guided into position even though it is moving transverse to the longitudinal axis of the vehicle.

Despite Buyers' contention, the amount of transverse movement permitted cannot be considered outside the scope of what is permitted by the claim language. Although it is true that the vehicle can approach transverse the longitudinal axis, to reach the point of attachment the vehicle must move parallel the longitudinal axis. If the vehicle in Buyers' figure continued moving transverse the longitudinal axis, it would crash into the snowplow frame and no connection could be made.

Moreover, the figures in the '978 patent show tapered receivers that clearly would permit transverse movement similar to that shown in Buyers' figure:



As the portion of Figure 2 provided above shows, the “outwardly flared end portions 60, 62” are no different than those found on Buyers’ snowplow assemblies and would no doubt permit the same transverse movement when aligning the mount frame on a vehicle with the snowplow frame. ‘978 pat., col. 4, lns. 51-52. It would be nonsensical and contrary to the basic law on claim construction to construe the claims as not covering a preferred embodiment. *See, e.g., Chimie v. PPG Indust., Inc.*, 402 F.3d 1371, 1377 (Fed. Cir. 2005) (“[A] construction that would not read on the preferred embodiment would rarely if ever be correct and would require highly persuasive evidentiary support.” (Internal quotation and alteration omitted)).

Despite additionally using a cross-bar and notch and permitting some transverse movement, Buyers’ snowplow assemblies use “first and second receivers receiving said first and second arms, respectively upon relative movement there between in a direction generally parallel to the longitudinal axis of the vehicle” and no reasonable jury could

find otherwise. Buyers does not dispute that its snowplow assemblies satisfy all other elements found in claim 28 (*see* Pl.'s PFOF, dkt. #160, ¶¶69-75; Def. Resp. PFOF, dkt. #193, ¶¶69-75) nor does it dispute that its assemblies satisfy the additional elements in dependent claims 29, 30, 31, 35 and 36 (*see* Pl.'s PFOF, dkt. #160, ¶¶76-80; Def. Resp. PFOF, dkt. #193, ¶¶76-80). Accordingly, Buyers' snowplow assemblies directly infringe independent claim 28 as well as dependent claims 29-31 and 35-36, and no reasonable jury could find otherwise.

Buyers' makes no additional arguments except for those addressed above with respect to independent claims 53 and 57 or dependent claims 54, 55 and 56. Failure of those arguments results in direct infringement of claims 53-57 because Buyers does not dispute that its assemblies satisfy the unchallenged elements of those claims. (*See* Pl.'s PFOF, dkt. #160, ¶¶81-99; Def. Resp. PFOF, dkt. #193, ¶¶81-99.) Buyers' snowplow assemblies, thus, directly infringe independent claims 53 and 57 as well as dependent claims 54-56 and no reasonable jury could find otherwise.

Douglas asserts that Buyers' snowplow assemblies indirectly infringe claims 58 and 59 of the '978 patent because Buyers sells snowplow assemblies intended to be attached using the method in claim 58 and intended to be detached using the method in claim 59. The only disputes raised by Buyers are the same ones raised above with respect to the arms and receivers used in joining the snowplow frame to the mount frame. As previously explained, those arguments all fail. Buyers does not dispute that the literature regarding its snowplow assemblies teach the claimed methods of attachment and detachment. (*See* Pl.'s PFOF, dkt. #160, ¶¶101 & 111; Def. Resp. PFOF, dkt. #193,

¶¶101 & 111.) Moreover, Buyers does not dispute that its snowplow assemblies satisfy all unchallenged elements of claims 58 and 59. (*See* Pl.’s PFOF, dkt. #160, ¶¶100-119; Def.’s Resp. PFOF, dkt. #193, ¶¶100-119.) Accordingly, through the manufacture, sale and offering for sale of its snowplow assemblies Buyers induces and contributes to the infringement of claims 58 and 59 by its customers and no reasonable jury could find otherwise.

VII. Willful Infringement

In addition to seeking summary judgment on noninfringement, Buyers requests it be granted summary judgment on Douglas’s claim that Buyers’ alleged infringement was willful. Because Buyers successfully established noninfringement of the ‘480 and ‘700 patents, there is no need to address whether there is any willful infringement of those patents.

To establish willful infringement with respect to the remaining three patents, “a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.” *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007). In other words, there must be a showing of at least “objective recklessness” on behalf of the alleged infringer. *Id.* “This objective standard is a threshold. Once met, the patentee must show that the infringer knew or should have known of the objectively high risk.” *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, slip op. No. 2009-1556, 2010 WL 3257312, at *13 (Fed. Cir. Aug. 18, 2010).

A. The '935 patent

Even assuming that a jury finds that the hydraulics system in Buyers' snowplow assemblies infringe the '935 patent, the question of infringement involves a close question over which there are reasonable differences of opinion. As noted in addressing Buyers' request for summary judgment of noninfringement of the '935 patent, a jury may agree with Buyers that attaching the A-frame to the lift frame and the lift frame to the vehicle -- as opposed to attaching both the A-frame and the lift frame directly to the vehicle -- does not produce an equivalent structure to that linked to the function of the mounting means limitation in claim 1.

As Buyers pointed out, at some point having multiple intervening structures or a large intervening structure between the plow blade and the vehicle must place a product outside the scope of claim 1. This is a reasonable position that presents a close question on the issue of structural equivalence; and also precludes the possibility of satisfying the "objective recklessness" standard. *See, e.g., DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1337 (Fed. Cir. 2009) (where question of equivalence was "a close one," viewed objectively, there could be no "objectively high likelihood of infringement" even after jury found infringement under doctrine of equivalence). Because Douglas cannot meet the high standard of showing willful infringement, Buyers' motion for summary judgment on Douglas's claim for willful infringement of the '935 patent will be granted.

B. The '530 Patent

Although Buyers' snowplow assemblies infringe the asserted claims of the '530 patent, and no reasonable jury could find otherwise, there was not an objectively high likelihood of infringement. Buyers' claims construction argument -- that claim 1's requirement that the snow blade be mounted on the forward end of the A-frame required a direct mounting with no intervening structures -- was a reasonable construction even though it was not the construction found to be proper by this court. First, both the specification and claim language are silent about whether direct mounting is required. Second, the figures in the specification, though unclear, could be viewed as showing a direct mounting with no intervening structures.

Had the court accepted Buyers' construction about the mounting of the snowplow blade, at the very least it would have been a close call as to whether the use of pushbars and a hinge-pin assembly provided the necessary direct mounting to infringe the patent literally or under the doctrine of equivalents. Because the claim language was susceptible to Buyers' reasonable construction and acceptance of that construction at most would have led to a finding of noninfringement (and at least have created a very close call on infringement), there was no objectively high likelihood of infringement. *See, e.g., Cohesive Tech., Inc. v. Medtronic Sofamor Danek, Inc.*, 543 F.3d 1351, 1374 (Fed. Cir. 2008) (because claim term was susceptible to a reasonable construction under which infringing product would not have infringed, there was no objectively high likelihood of infringement). Buyers' request for summary judgment on Douglas's claim for willful infringement of the '530 patent will be granted.

C. The '978 patent

Buyers' argued that its snowplow assemblies could not infringe the '978 patent because the assemblies used an element -- a cross-bar and notch -- that Douglas has disclaimed during the prosecution of the '978. While the court ultimately rejected this argument, it was reasonable. In the prosecution history Douglas did address the undesirable prior art feature that Buyers included in its assemblies. The problem was that there was no clear and unequivocal disclaimer of the undesirable feature and the patent included the open transitional phrase "compromising," which permits additional unclaimed and undesirable elements. Deciding whether Douglas had disclaimed the undesirable feature and whether that disclaimer prohibited infringement when the undesirable feature was included (in addition to every other claimed element) are questions of law that Buyers had no definitive answers until now.

Buyers' infringement could not have been the result of objective recklessness with these unanswered questions floating about. Accordingly, Buyers' request for summary judgment on Douglas's claim for willful infringement of the '978 patent will be granted.

ORDER

IT IS ORDERED that

- (1) Defendant Buyers Products Company's motion for summary judgment (dkt. #170) that its snowplow assemblies, MD series, HD/EX series, VX series, CM series, XP series, and TE series do not infringe United States Patents Nos. 6,944,978, RE 35,700, 5,353,530, 5,420,480 and 4,999,935 and that none of those patents are willfully infringed is
 - (a) GRANTED in so far as:
 - (i) Defendant's accused products do not infringe the '480 patent or the '700 patent; and
 - (ii) The '978, '530 and '935 patents cannot be willfully infringed.
 - (b) The remainder of the motion is DENIED.
- (2) Plaintiff Douglas Dynamics, LLC's motion for summary judgment (dkt. #158) that defendant's snowplow assemblies MD series, HD/EX series, VX series, CM series, XP series, and TE series infringe United States Patents Nos. 6,944,978, RE 35,700, 5,353,530 and 5,420,480 is
 - (a) GRANTED in so far as defendant's six snowplow assemblies:
 - (i) Directly infringe claims 1, 3-5 and 7 of the '530 patent and claims 28-31, 35-36 and 53-57 of the '978 patent; and
 - (ii) Contributorily and induce infringement of claims 58 and 59 of the '978 patent.
 - (b) The remainder of the motion is DENIED.
- (3) Plaintiff's motion to strike defendant's expert report (dkt. #136) is DENIED.

Entered this 1st day of October, 2010.

BY THE COURT:

/s/

WILLIAM M. CONLEY
District Judge